The Manufacturing Confectioner

PIONEER SPECIALIZED PUBLICATION FOR CONFECTIONERY MANUFACTURERS

MAY
1953

Using Incentives in the Candy Plant
Modern Materials Handling at F & F
Is Sorbitol Needed in Pectin Jellies
Notes from the Packaging Conference

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COVER: A view in the factory of Lindt & Sprungli. See the story on page 29

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NEXT ISSUE you'll be reading about . . .

FROZEN CANDY

Mr. Arnold, vice president of Fannie May Candies, tells some of the reasons behind their pioneering in the field of frozen candies. He covers many of the problems of setting up retail distribution and finding the best type of outlet to handle this new method of candy merchandising.

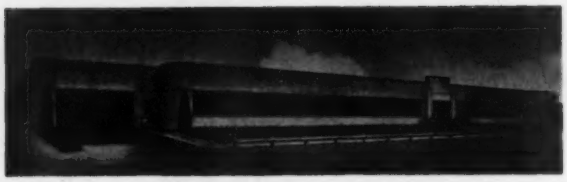
LEHIGH PRODUCTION CONFERENCE

The June issue will contain a running account of the talks given at this meeting, and will publish two or three in full.

NCA CONVENTION

A complete program of the convention, and roster of exhibitors will be printed, so be sure to check in this issue and mark those meetings and exhibits that you do not wish to miss.

Confectioners' Briefs



The D. L. Clark Company, Pittsburgh, has announced its acquisition of the plant and facilities of the former John Horne Candy Company, Evanston, Illinois. In announcing the expansion, David L. Clark, Jr., president of the Pittsburgh firm, stated that, "It is our plan to have this new plant producing Clark Bars by May 1st of this year." The plant and property provides a total working area of 80,000 square feet. The plant, constructed in 1946, houses modern equipment requiring a minimum of change-over for Clark processes. Installation of necessary special equipment will start immediately to provide "straight line" production from raw materials to finished goods at the loading dock.

Acquisition of this new plant marks a new chapter in the history of the sixty-seven year old Clark Company. Established in Pittsburgh in 1886, the company's present manufacturing facilities in Pittsburgh include a modernly equipped seven-story building, occupying a full city block in area, and employ nearly 1000 persons.

Cadbury Brothers Ltd., Bournville, England, are constructing a new factory on Wirral Peninsula, near New Brighton. The floor space of the new factory will be about 220,000 square feet, just over five acres. Between 500 and 600 people will be employed with Mr. T. Piggot from Bournville as works manager.

Beech-Nut Packing Co. of Canajoharie has named V. Edward Whalen general credit manager.

Frank G. Shattuck Company, New York, have announced plans for an addition to the Schrafft Stores' factory in New York. The cost was estimated at $1,000,000. The improvement involves the erection of an eight-story extension.

Spangler Candy Company has purchased Dum Dum Pops from the Akron Candy Company of Bellevue, Ohio. The business will be moved to their manufacturing plant in Bryan, Ohio. Included in the purchase is most of the machinery and equipment, in addition to the trade name for the item.

Dum Dums originated in 1931. The Akron Candy Company currently employed 85 people in their Bellevue plant. Officers include: Harry Kirtz, president; Leonard Kirtz, vice-president; and Ernest Kirtz, secretary-treasurer. They are expected to liquidate the balance of their candy manufacturing.

Spangler Candy Company was founded in 1906 by Arthur G. Spangler with his brothers Ernest and Omar. The firm has continually expanded with sales now covering all of the central and eastern areas of the country. Two wholesale outlets are operated in addition to the manufacturing; one in Toledo and the other in Bryan. Seven members of the Spangler family are currently active in the business.

Tuxedo Candy Company will begin the manufacture of candy in its new plant at 999 Newhall Street, San Jose, on June 15, accordin to an announcement by W. D. Davies, Company Manager. The Tuxedo Candy Company, a division of Safeway Stores Incorporated, will have its headquarters at the plant.

"Several lines of candy will be manufactured in this plant," said Davies. "Among the varieties of candy will be marshmallows, hard candies, chocolates, specialty items, jelly and gum drops, and orange slices. All of the candies except the marshmallows will be sold under the brand name of Roxbury. Fluff-i-est is the brand name for marshmallows.

"All of the candy manufactured at the plant," continued Davies, "will be distributed through Safeway stores. When the plant gets into production, Safeway can offer its customers a much greater variety of sponsored brand candy. Raw products for manufacture are purchased throughout the country, but a major part of them come from California. The finished products will be distributed all through the western part of the United States and as far east as Iowa, Missouri and Arkansas."

"This plant will replace the older and smaller one that we have been operating in Los Angeles for several years," said Mr. Davies. "That plant will be closed on April 15. This new plant will make us one of the largest candy producers west of Chicago. Air-conditioning and refrigeration equipment is the most modern available. Many new methods will be adopted in the plant. For example, major ingredients will be delivered in bulk and automatically distributed throughout the plant. Goods in process will be handled by automatic conveyers directly to packing departments. We have been installing new machinery and remodeling ever since we acquired this plant some months ago.

"Among the many features of the plant will be a quality control laboratory," continued Mr. Davies. "The staff of laboratory technicians will be headed by Walter Schoendorf, Chief Chemist. He and his staff will spend all their time testing and sampling raw materials and plant products so that consumers may be assured of the highest quality products."

C. L. Fowler, who has managed the Tuxedo Plant in Los Angeles, will be the manager of the San Jose plant.

Hamilton Chewing Gum Co. is building a small plant at Hamilton, Canada for bubble gum only. Premises, representing an investment of about $60,000, will replace rented space.

Barton's are opening their 8th Chocolate Shop in Detroit, Arthur Klein, General manager of the candy chain's Detroit stores, has announced.

Neal Diller's resignation as President and Director of Chase Candy Company, St. Louis was accepted at a Board Meeting of the company on April 2nd. The executive staff of Chase honored Mr. Diller at a farewell luncheon. At that time, Neal announced plans for an extended vacation before making any commitments for the future. W. A. Yantis has been elected as president of the company.

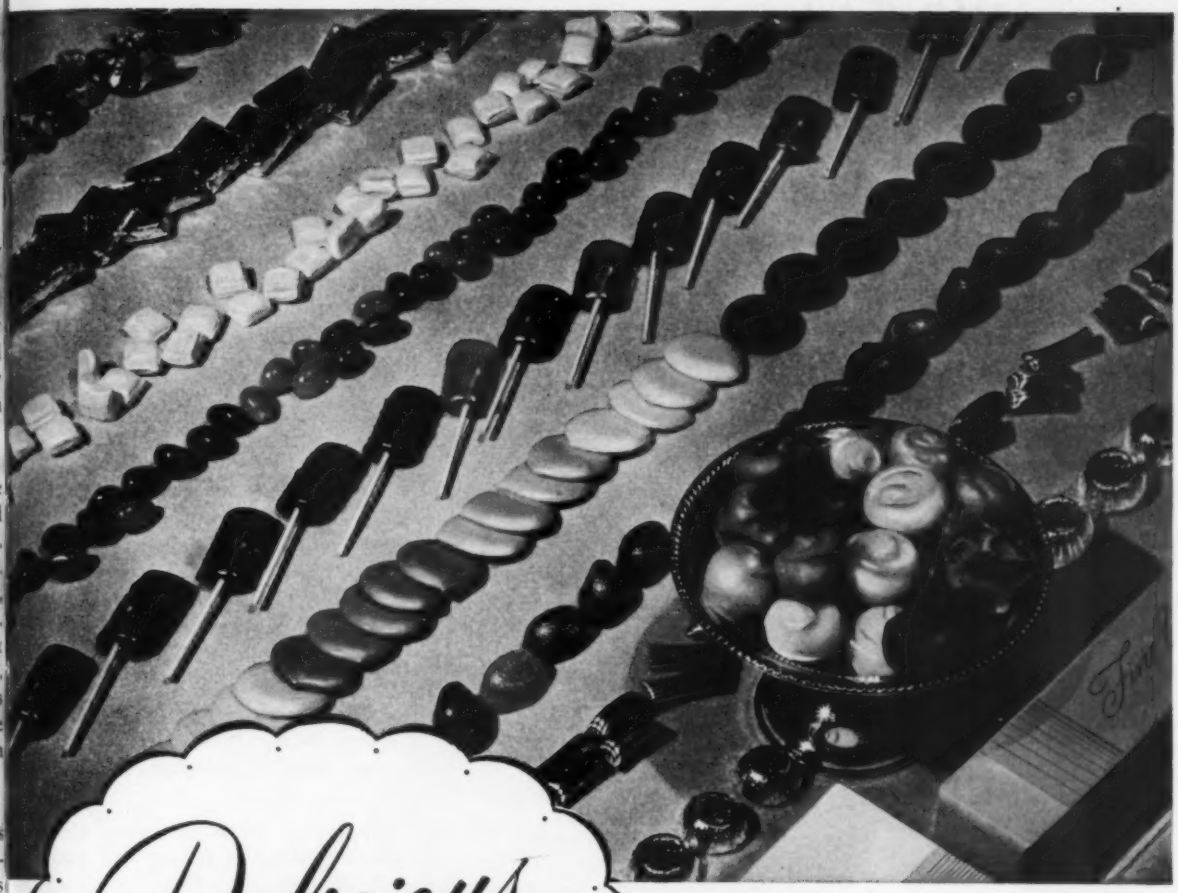
W. F. Schrafft & Sons Corp., Boston, elected the following Officers and Directors at their Annual Meeting: Mr. W. V. Wallburg, President; Mr. J. G. Rote, Vice President and Treasurer; Mr. W. O. Wallburg, Clerk; Directors: Mr. Gerald Shattuck, Mr. W. V. Wallburg, Mr. J. G. Rote, Mr. E. H. Savage, Mr. Samuel Sidd, Mr. H. H. Sprague, & Mr. W. O. Wallburg. As of April 1st, Mr. E. J. Murrman was appointed Merchandising and Sales Promotion Manager. Mr. George F. Wallburg, Vice President and Treasurer, retired after thirty-seven years of service with this Corporation.

Sweets Co. of America, Inc., Hoboken, N. J., is expanding its Los Angeles warehousing and distribution facilities for the manufacture of its products to supply the Western States, Leonard Stone, executive vice-president, recently announced. The 60,000 square foot plant located near Culver City, is being increased to 70,000 square feet. Candymaking machinery is on order and the company expects to be in operation by the first of next year at a daily rate of 50,000 pounds and with a maximum capacity of 100,000 pounds daily.

Sweets Co. expects to increase its 1953 dollar sales to $12,000,000 from approximately $10,000,000 in 1952. To achieve that objective it is conducting an intense promotion campaign aimed at the 5 to 20-year age market.

Griggs, Cooper & Co., St. Paul, 71-year-old food processor will be merged with Consolidated Grocers Corp. of Chicago. Mr. Griggs will continue as president and will be elected to the Consolidated board. The company has for years manufactured candies under the name of Sweetest Maid candies.

New England Confectionery Co., Cambridge, has elected William H. Vogler, vice president and treasurer, to the board. John Maynard Whittaker was elected vice president of the company. Mr. Whittaker joined Necco in 1952 as assistant to the president, prior to which he was with Nestle Chocolate Company. Mr. Vogler has been with the firm thirty years.



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Conventions -- Meetings

May 18-22—National Materials Handling Exposition, Convention Hall, Philadelphia, Penn.

May 21—New York Candy Club, Park Sheraton Hotel, New York City.

May 24-27—Super Market Institute, Public Auditorium, Cleveland

June 1—Confectionery Salesmen Club of Baltimore, Md. 12:30 P.M. Gannon's, 3150 Frederick Road.

June 4—Michigan Candy Club, Annual Golf and Dinner Party. Grand Rapids, Michigan.

June 6—National Plastics Exposition, Cleveland Auditorium, Cleveland, Ohio.

June 10—Confectionery Salesmen's Club of Baltimore, Annual Outing. Conrad Villa Shore near Glenn Martin.

June 10-12—Southern Wholesale Confectioners Ass'n, Jung Hotel, New Orleans, Louisiana.

June 10-12—Southern Salesmen's Candy Club, Jung Hotel, New Orleans, La. Annual Meeting.

June 13—Candy Square Club of New York City, Annual Boat Ride.

June 14-18—National Confectioners' Ass'n, Waldorf-Astoria Hotel, New York.

June 14—Associated Retail Confectioners, 33rd annual convention, New York.

June 25-27—Pennsylvania Manufacturing Confectioners' Association annual meeting and conventon, Galen Hall, Wernersville, Pa.

June 20-25—National Food Technical Conference, Boston, Mass.

June 21-25—Institute of Food Technologists, Hotel Statler, Boston, Massachusetts.

July 6-9—National Confectionery Salesmen's Association, Annual Meeting, Atlantic City, N. J.

July 27-30—New York Candy Show, sponsored by The Metropolitan Candy Brokers Association, Hotel Commodore, New York City.

August 2-5—Western Confectionery Salesmens Association, Chicago, Illinois.

August 2-6—National Candy Wholesalers Association, Conrad Hilton Hotel, Chicago.

August 23-26—National Automatic Merchandising Association, Conrad Hilton Hotel, Chicago

Aug. 31-Sept. 5—National Dietary Foods Association, Morrison Hotel, Chicago, Ill.

September 20-23—Philadelphia Candy Show, sponsored by the Retail Confectioner's Ass'n of Philadelphia

Oct. 12-14—Packaging Institute, Hotel Statler, New York City.

Oct. 18—Industrial Packaging and Materials Handling Exposition, and technical short course, Boston, Mass.

October 27—Association of Consulting Chemist and Chemical Engineers, Belmont Plaza, N. Y.

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TANGERINE OIL MM&R

ONE TASTE WORTH 1000 WORDS

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Readin' • • • Writin' • • • and Candy

SOMETIMES we're lucky. A release from the U.S.D.A. informs us that two new antioxidants, alpha and beta conidendrol have been tested as inhibitors of oxidative rancidity in cottonseed and peanut oils, in lard, and in fat-containing candies. Performance was as good or better than a number of the accepted stabilizers.

However, before these materials may be considered for use in foods, toxicity studies now underway at the Western Regional Laboratory must be completed. Chemists at the Southern Regional Laboratory were the first to use conidendrin (plentiful as a waste product during the pulping of western hemlock) as a source of new stabilizers.

Seems as though the above fits in rather nicely with the lead article last month. Hope you enjoyed reading Dr. W. O. Lundberg's article on antioxidants as much as we enjoyed seeing the manuscript which was especially written at the request of THE MANUFACTURING CONFECTIONER.

Dr. Ernest Guenther, V.P. of Fritzsche Brothers and author of the classic volumes of The Essential Oils, was a speaker at the American Meat Institute Research Conference March 27, University of Chicago. Title of the paper was "Spice Flavorings in the Meat Industry." What a drab and colorless world this would be without spices and flavorings!

Ever feel sorry for yourself? Wish that you were in some other business? Why? What's wrong with the candy business? True, you don't get customers as young as the producers of baby foods but you don't have to wait as long for customers as the tobacco interests. And if candy is made right, keeping a customer shouldn't be too much of a problem. Maybe, we have forgotten that every food is a direct competitor of candy. The human stomach has a very limited capacity although it frequently requires replenishing. This "bottomless pit" can certainly utilize more candy than it has been getting. Must be we haven't enough aggressiveness to really get our share of the market. Let's get up off our laurels and sell Candy for a change! Some candy companies are doing a good job but some (too many) are being carried along.

Stores in Chicago seemed well supplied with Easter Eggs—marshmallow, cream, and panoramic types; Baskets for the Season which glorified confection; and other candy novelties. Business seemed to this observer to be brisk at the leading candy stores. 'Course, we suppose a few glad rags were sold to the ladies and gentlemen who couldn't get close to the candy counters. But then, better luck to them next Easter. —W.H.C.

Quality PECANS BOOST your PROFITS!

Here's Why:

Just watch that consumer.

One crunchy bite . . . a pleased grin. "Man, that's candy!"

It took fine ingredients, skilled processing and top packaging to produce that grin and that comment about your candy . . . and QUALITY pecans helped!

With all the other fine ingredients you use, don't be satisfied with less than the best quality pecans. You'll find they make a big difference in making pleased grins . . . increasing your sales.

Yes, the result of a pleased customer is a happy retailer, a delighted jobber and—above all—you'll be happy, too!

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SHELLED PECANS

Southern Belle Pecans are tastier, crunchier, more flavorful. They are shelled, cleaned, graded and sorted by modern machinery under our exclusive process.

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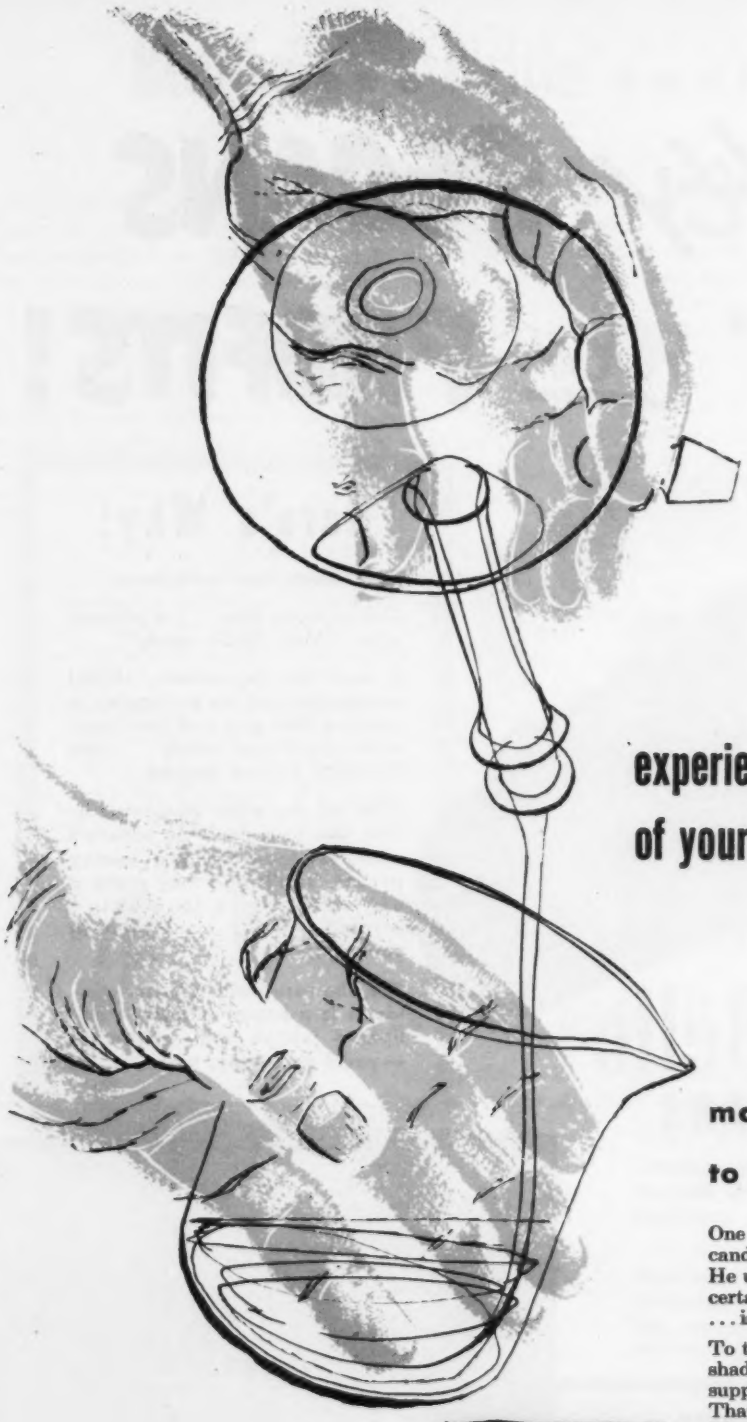

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make it FLAVORABLE

to make it salable

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To turn out a flavor with all the delicate shading worthy of *your* product, your supplier must use only the finest ingredients. That's why he selects Monsanto products. Monsanto Ethavan (ethyl vanillin) and vanillin, for example, are used because of their uniformity and purity. Coumarin Monsanto is excellent for fixing and accenting these products as well as other flavors. All Monsanto products are effective because of the close quality control maintained during manufacture.

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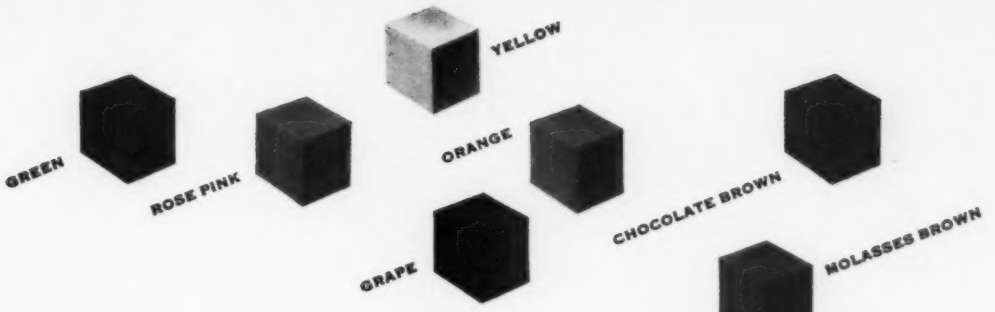

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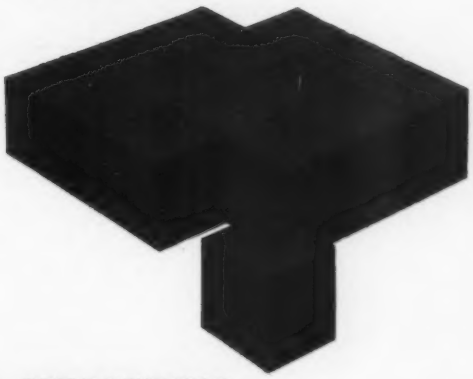

New ATLAS SELF-MEASURING CERTIFIED COLOR CUBES

QUICKLY! Atlas Self-Measuring Color Cubes are the *fast, easy, fool-proof* way for *anyone* to color a hard candy batch of *any* size. Atlas Color Cubes are readily and fully soluble in hard candy. Just use 1 cube to color a 35 lb. batch.

ACCURATELY! The *patented* self-measuring* feature of Atlas Color Cubes guarantees dependable color uniformity in every batch. In a 1 lb. box, each of the 8 2-oz. squares is precision-scored to form 16 color cubes per square. They break off easily and exactly, assuring accurate color control every time.

ECONOMICALLY! Atlas Color Cubes save you time and money. No waste – no muss – no time lost preparing pastes–and everything, even hands, are kept clean. And just 1 lb. will efficiently color approximately 4,500 lbs. of hard candy.

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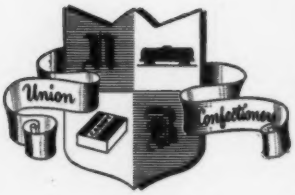

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Mr. Terry of Wallace & Co., Brooklyn, New York, tells how the use of industrial engineering principles can be applied in candy plants, and how they can lower the unit labor costs. He describes the use of the "flow process chart" in finding the "one best way" to do any specific process.

Incentives in the Candy Plant

From the PMCA Production Conference, Lehigh University, April 1953

I WILL discuss two ingredients in candy making that are mentioned too seldom, namely, UNIT COST and THE PEOPLE WHO DO THE WORK.

Here is the situation in the candy industry from the production angle. We start with figures published by the U. S. Government covering the period from 1939 to 1951. They took 1939 as a base period and let that equal 100, and the 1951 results are as follows:

Production	161.1
Production Workers	122.8
Man Hours	130.5
Output per Production Worker	131.2
Output per Man Hour	123.4
Production Workers per Unit	76.2
Man Hours per Unit	81.0
Average Hourly Earnings	243.7 (computed)

The last figure was computed from Government data.

The Government never publishes the figures on Labor Cost per Unit, as Mr. John Collins pointed out in a recent, very worthy series of articles in the *International Confectioner*. However, the Labor Cost per unit can be computed from Government data and for 1951 was about 197.

We can limit our discussion to three salient figures:

1951 Output per Man Hour	equals	123
1951 Unit Labor Cost	"	197
1951 Average Hourly Earnings	"	244

In other words since, 1939:—

A. Hourly earnings increased	144%
B. Unit Labor Costs increased	97%
C. Output per Man Hour increased	23%

Virtually all candy manufacturers spent considerable sums of money for new equipment in the period from 1947 to 1951 and they got an increase in output per man hour as shown on this chart. But the labor cost shot up like a sky rocket. Some candy manufacturers bought new equipment with the expectation that it would reduce labor cost per unit but they were sadly disappointed, because spiralling hourly wage rates wiped out any possible savings. In fact, some candy manufacturers were so badly disappointed that they went out of business.

However, other candy companies realized that they were being squeezed, as though caught in a vise, by increasing labor and material costs on the one hand and an ever smaller profit margin on the other. Some of them applied the techniques of modern management to achieve lower unit labor costs.

In the past few years at these Production conferences we have heard how the tools of industrial engineering have been used in a cigar factory and an oil refinery. Now allow me to make some suggestions how these principles can be applied to the plant you and I know best —the candy plant. It is my impression that in those candy plants where Industrial Engineering principles have been applied, unit Labor Costs have NOT sky rocketed as much as they have in the candy industry as a whole.

Therefore, we will briefly and with a minimum of ponderous technical terminology consider the following:

A. A practical methods program which is suitable to the individual candy plant and how it can be applied.

B. What operations in the candy plant can be the proper subject of time study.

C. Where wage incentives based upon time study can be practically introduced.

D. Various profit-sharing plans now receiving attention and their suitability to the candy plant.

We will skip the history of work simplification, methods analysis and time study because distinguished speakers from other industries have adequately covered this topic in previous years. Let's stick to our own candy plants.

First we will examine a practical way to apply methods analysis to a candy plant. Fancy terms like "methods analysis", "work simplification" etc. can be translated to mean finding the "ONE BEST WAY" to do any given job. To find the "ONE BEST WAY" it is necessary to break down the job into the following five classifications:

O—Operations
ʊ—Transportations
□—Inspections
D—Delays
△—Storages

Actually what is needed is a fresh viewpoint towards the work in your plant. A helpful way to secure this viewpoint is by use of a "*Flow Process Chart.*" This chart is merely a form for recording in a concise way any process, so that improvements become evident more easily. The simplified chart I use was developed at New York University.

Most advocates of methods analysis have agreed on certain symbols for these classifications to save time in writing. They make just about as much sense as using Na for Sodium or K for Potassium, but nevertheless here they are. In the chart I use, we don't even write symbols. They are printed on the chart and all I have to do is check it off or number it.

Anyone can make a flow process chart, and probably make some improvements as a result. Let's take a familiar example and make a flow process chart. Let's imagine a woman getting on a bus. The chart would look something like this:

ʊ—Transportation—Climb 2 steps
O—Operation—Take pocketbook from under arm
O— " —Open pocketbook
O— " —Take out handkerchief
O— " —Take out keys
O— " —Take out change purse
O— " —Put back handkerchief
O— " —Put back keys
O— " —Open change purse
O— " —Take out dollar bill
D—Delay—Wait while driver makes change
□—Inspection—Counts change
O—Operation—Puts change in large pocketbook
O— " —Closes change purse
O— " —Puts change purse in large pocketbook
O— " —Closes large pocketbook
ʊ—Transportation—Moves to middle of the bus
△—Storage—Stays there blocking everyone who tries to get off.

Most men on the other hand instinctively practice work simplification in their daily lives and the average man boarding a bus would probably do it the *One Best Way.*

ʊ—Climb 2 steps
O—Reach in outside coat pocket; pull out a dime which he had previously put there.
O—Drop the dime in the box
ʊ—Move to the rear of the bus
□—Look for a seat
ʊ—Dive into the seat
△—Stay seated regardless of how many nice old ladies stand on his toes

Let us recapitulate—

the woman performed	13	operations
	2	transportations
	1	inspection
	1	delay
	1	storage
the man performed	2	operations
	3	transportations
	1	inspection
	0	delay
	1	storage

The flow process chart makes it self evident that the woman performed 11 unnecessary operations. Anyone can make a flow process chart and probably make some improvements. However, a person familiar with their construction and use, and educated in the principles of motion and time study, will probably be able to get more out of them, especially if he has some engineering training or experience. Such a man, watching a candy man cooking batches of cream all day long, at 20 minute intervals with a mercury thermometer, would soon see from his chart that the man spent 8 or 10 minutes out of each batch watching the thermometer. He would mark on his flow chart 8 or 10 minutes D-delay time for each batch. The chart has a place for figuring how much this delay time means in dollars and on an annual production basis. On page one of this Flow Process Chart he would put a rough sketch of a comparatively simple electronic device which would shut the steam off at the proper temperature, eliminating the necessity for the man to watch the thermometer through a cloud of steam. On page 3 of the Flow Process Chart he would write an explanation, of the proposed change, stating that the electronic shut off device would cost about $1200. and would pay for itself in 6 months.

With a concise presentation like this how long would it take for him to get approval from his superiors to make the change?

Incidentally, the flow process chart in its simple clarity

is an excellent medium for selling your ideas to top management, or your Board of Directors, especially if your idea involves spending a little money.

Flow process charts can be used in any part of your plant in studying any process, and can be used by anyone. Encourage your foreman to try to find the *One Best Way*. Find the man in your plant with keen powers of observation and turn him loose with a flow process chart. As I mentioned before, the better the background of the man who constructs the chart the better your results will be. I will be glad to send a copy of the flow process chart I use to any one who wants it.*

Our next topic is Time Study, and where we can apply it in the candy plant. Time study no longer means a man standing behind a pole, with a stop watch, observing a man work and then making a note of the number of minutes it takes him to do the job.

Time study when properly applied determines how long it *should* take to do something. It determines how long it *ought* to take.

Before a time study is started, the *"One Best Way"* of doing the job should be previously determined by a methods study with a flow process chart. Time study will determine the normal time it ought to take to make each motion. Let us take a very simple example. The shortest motion I have any experience with in the candy industry is enrober stringing or stroking. This is an operation most of us know. The centers are running through a curtain of chocolate in the enrobing machine. They come out onto a cooling belt all covered with chocolate. The usual setup is to have some girls at this point who make a design on the candy which not only enhances the appearance of the piece but serves for an identification of that piece of candy in an assortment. For example, it is customary to mark chocolate-covered almonds and caramels with a straight line, and Maraschino Cherries with a circle. There are many variations such as H's, V's, zig-zag strokes, etc.

A proper time study will show how many pieces per minute each girl should do. Under certain specific conditions in one candy plant, the time study showed that the normal time for putting a straight line on almonds was 7/10 seconds and on caramels it was a slightly longer motion and should take 8/10 of a second. A stroke like W would possibly show a normal time of 1 second.

Ordinarily, the time study man would add a fatigue or delay allowance. In this particular case, assuming a 16" enrober running at 6½ feet per minute the allowance was 12½%.

Taking any given stroke with a normal time of 1 second per piece, 4 girls will normally do 240 pieces per minute. If they are working under an incentive plan, they will do ⅓ to ½ above normal or 320 to 360 pieces per minute. If this is a 40 count line your production in this item should be 4320 lbs. in an 8 hour day. You may get more or less than this depending upon the particular conditions in your plant.

The controlling factor in this type of enrober operation is the normal time per piece. The design of the tunnel, the speed of the machine, the width of the machine, should all be designed to take advantage of maximum labor potential if we are to lower the unit labor cost.

The controlling factor is not the speed of the machine, nor its width, but the number of pieces that are brought into stroking position for the operators. The number of rows placed on a machine, and how they are spaced determines your production, not the speed of the machine alone. The speed of the machine should be variable in accordance with the type of stroke being run at that particular time.

Many proud candy manufacturers, having bought a nice big shiny 32" enrober, are pleased to have one of our fine trade publications publish a photograph of the operation. Some of these pictures are quite amusing. There's this big, beautiful wide machine in the picture but with many empty spaces on the belt where candy should be. I actually saw a 32" machine in one plant where 4 rows of candy were going through. These 4 rows were right in the middle of the belt. The operators had to lean over and hold their arms way out to "string" their pieces. Just imagine leaning over the seat in front of you and trying to write your name over and over again, all day long, with your arms outstretched and you will understand why the unit labor cost per pound was high in this particular plant.

As a matter of fact, you can, with the proper type of automatic feeder, get up to 12 rows of 60 count candy on a 16" enrober. By feeding them closely enough, and running the enrober at the proper rate of speed as determined by time study, you can secure a very favorable labor cost per unit.

The foregoing was an example of how time study can be applied to a simple operation. A more complex operation is packing a box of assorted chocolates on a conveyor. We can assume a box which contains 25 different kinds, to be packed by 25 girls. The time study will show that some pieces take more time than others because of their shape or size. When the last few pieces are put in we know that it requires more time to squeeze them in. A time study will show the proper combination of pieces that each operator should put in. This whole belt or assembly line cannot produce any faster than the slowest operation. If one operation takes 4 seconds and the other 24 girls can do their job in 3.5 seconds, the net result is that we lose a half a second or 14% on 24 girls. The unit labor cost on this item would be 14% higher than it should be.

A proper time study will determine the proper combination for a well-balanced operation with minimum lost time and minimum Process Allowance. Time study can accurately determine the speed at which your belt should run and give an accurate picture of the number of girls required to meet your production schedule.

These are two examples of how time study can be applied in a candy plant. The first was enrober stringing and the second was assembling a box of assorted chocolates.

Time study can be applied to any operation in the candy plant which is of a repetitive nature, where the output can be reasonably measured.

Time study can be applied to:

1. All cooking operations, gums, creams, caramels, nougat, marshmallow, etc.
2. All casting operations by mogul or any other form of depositor; even hand depositing by funnel.
3. All cutting operations such as nougat and caramels.

4. All processing operations such as sugaring of gum goods, jellies or slices.
5. All dipping operations, enrober and hand dipping.
6. All packing operations by hand or machine.
7. All wrapping operations by hand or machine.
8. Some cleaning operations such as cleaning of floors and windows.
9. Some office operations which are highly repetitive in nature.

Time study should not be applied to:

1. Any operations which do not occur frequently such as sample batches.
2. Any operations where the output cannot be reasonably measured such as hand-picking of nuts. In nut-picking it is hard to determine whether the operators should be paid for the nuts they reject or the ones they pass. A moral hazard is involved here in that output cannot be reasonably measured.

So far, we have considered methods analysis and improvement through Flow Process Charts. We have also considered time study to determine how long it *should* take to do the work.

Going back to the chart, we again see that output per man hour has gone up only 23% from 1939 to 1951 while labor cost per lb. has gone up 97% and hourly wage rates have gone up 144%. The economists, like Mr. John Collins, seem to agree that the comparatively slight increase in output per man hour was due to new equipment and have found no reason to believe that there was any increase in skill on the part of labor, or any increase in zeal. We all know that constantly increasing wage rates have been due to inflationary pressures. But it is also a fact that real wages, that is, wages after adjustment for increases in the cost of living, are about 30% above 1939.

What can we, as candy manufacturers, do to arouse the zeal of the people who do the work? How can we stimulate their desire to produce more at less cost?

I respectfully suggest that wage incentive based upon production in excess or normal may be a possible solution. Where local conditions permit their installation, wage incentives have been proven to do the following:

1. Increase the earnings of the individuals who do the work.

2. They reduce unit labor costs.

Many incentive plans have been tried. The most successful incentive plan is one that is based upon time studies which have previously been made to determine normal output. Then whatever the individual produces beyond the normal, he gets paid for at a fixed definite rate. The incentive rate is guaranteed as long as the existing method of operation is in effect. The worker need not fear that the rates will be reduced as soon as his earnings start increasing substantially. The installation of such an incentive plan should be left to recognized specialists in this field or it may lead to endless difficulties.

Most authorities agree that the results of a scientifically installed incentive plan are about as follows:

A. That before incentives are introduced the average operation is being performed at 67% of normal. The people who do the work are being paid for 60 minutes and are producing about 40 normal minutes' work.
B. After incentives are installed the rate of production is about ⅓ to ½ above normal or about 80 to 90 normal minutes of work in 60 minutes.
C. Even if you pay for the extra 20 to 30 minutes at their full hourly rate, there are considerable savings in overhead.
D. Incentive plans work best when the people who do the work know the results daily.

There are certain profit-sharing plans now receiving public attention, such as Prof. Scanlon's at M.I.T. They claim that they establish a normal percentage relationship between labor and sales. Then any savings made in reducing labor payroll under this figure are shared with the people who do the work.

One candy company sets aside 10% of its profit before taxes as a pension fund for its employees. This sum is divided among its employees in proportion to their earnings.

There are many other profit-sharing plans which are receiving attention. However, there is one disadvantage to all profit-sharing schemes where the payment is made on a group basis. In a group plan there is no definite relationship between the output of the individual and the amount of money he receives. A group incentive is not as successful in increasing the skill or zeal of the individual as the individual wage incentive. Although it is true that if we take the country as a whole our standard of living is based upon the amount of goods we produce. No one wants to work hard when there's an easy way. We can as individuals, as an industry and as a nation, though finding easier ways of doing things and proper wage incentives, increase our standard of living far beyond anyone's fondest dreams.

It is my belief that the resistance to wage incentives on the part of some groups is the natural reaction to incentives which were incorrectly installed and improperly administered in the past.

If the people who do the work are convinced that a scientifically determined incentive plan will result in substantially higher earnings for themselves, their objections will eventually disappear.

From the standpoint of economics, if you increase earning power and at the same time reduce your unit labor cost you automatically raise the standard of living. That's not only economics, it's simple arithmetic.

Finally, perhaps we in management should stop talking and thinking about labor, labor with either a small l or Labor with a capital L, and recognize these human beings for what they are—the people who do the work. With that attitude, try some work simplification or methods analysis, find the ONE BEST WAY to do the job, try some flow process charts. Give some consideration to time study for cost control if you cannot install wage incentives in the near future and you may be able to point to that chart and say, as some candy manufacturers are saying now, "That may be the situation in the Candy Industry as a whole, but it does not apply to my plant. We're doing much better than that."

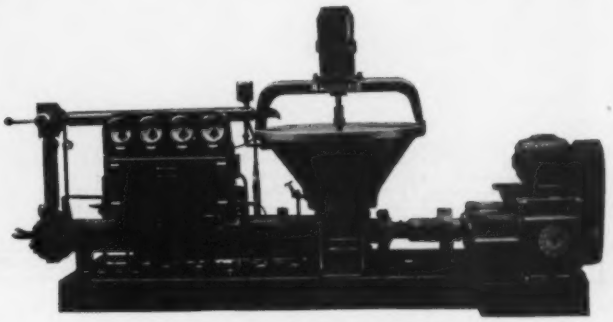
* If you want a copy of the flow process chart which Mr. Terry mentions in his article, write to him at:

Wallace & Company
460 Smith St.
Brooklyn, N. Y.

Candy Equipment PREVIEW

FULLY AUTOMATICALLY CONTINUOUS TEMPERING MACHINE

ABSOLUTE ACCURACY IN TEMPERING REGARDLESS OF INITIAL CHOCOLATE TEMPERATURE



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Any filler, nuts, cereals, etc., can be incorporated in the chocolate, and continuously tempered for the moulding machine. Chocolate bars or coating will have proper snap.

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Chocolate direct from melting tank through tempering machine to coaters continuously. The unit will reduce the temperature from as high as 130° F. to 84° F. and back to 88° F.-91° F. Precise tempering avoids under and over-temper.

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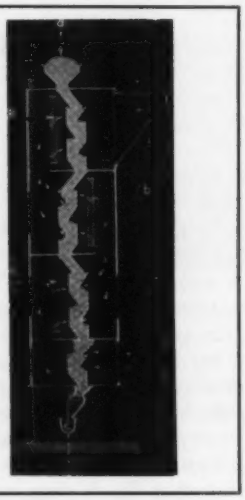

Schematic Reproduction

(a) bean entry
(b) heating units
(c) bean discharge
(d) entry of air
(e) cooling zone
(f) exit of air

PROBAT CONTINUOUS ROASTER

Cocoa Beans, Peanuts, Almonds
Continuously and Automatically Roasted and Cooled

1. Guaranteed uniform roast without breakage.
2. Low costs for operation, heat, energy, and maintenance.
3. Minimum of moving parts.

The PROBAT is a vertical roaster. It is charged from above through a funnel connected to your conveyor. Every cocoa bean is uniformly roasted from the center to the outside. The beans roll gently down by gravity, passing through three separate heating stages and at each stage, the cocoa bean is given a smooth flow of hot air, insuring that no particle of the nibs will be left unroasted.

The construction of the PROBAT Roaster, in connection with a thermostatic flow control, will automatically maintain the temperature in the roasting product regardless of steam fluctuation. The required temperature itself is exactly adjustable. Once set for a given roast or drying process on the same type of cocoa beans, the PROBAT will give uniform results as long as required.

At discharge, the beans are cooled intensively. The air, picks up the heat from the hot cocoa beans in the cooling zone, continuously moves up through the heating units and the cocoa beans to the exhaust at the top.

Cocoa beans leaving the PROBAT are so cool that they will not over-roast again. From the discharge conveyor, the cocoa beans can be directed to the cracker and fanner.

A minimum of moving parts eliminates wear and minimizes maintenance costs. Efficiently insulated, the PROBAT provides complete utilization of the heat. Because of its vertical construction, the PROBAT will roast maximum poundage per square foot of floor space.

John Sheffman, Inc.
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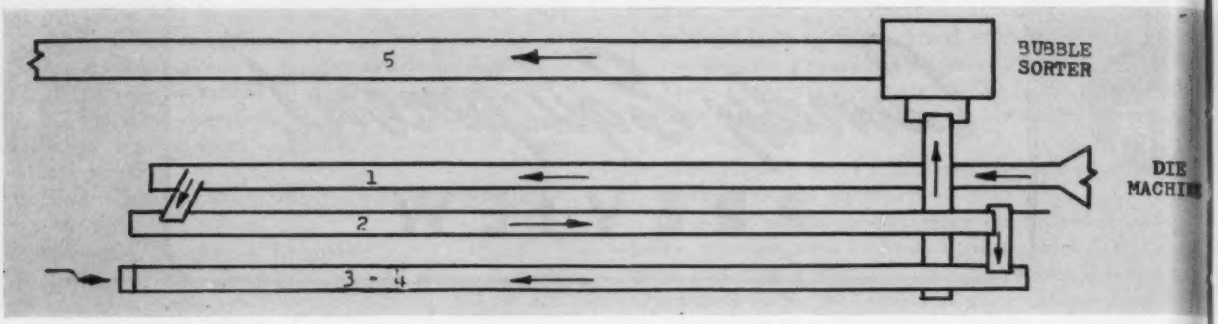
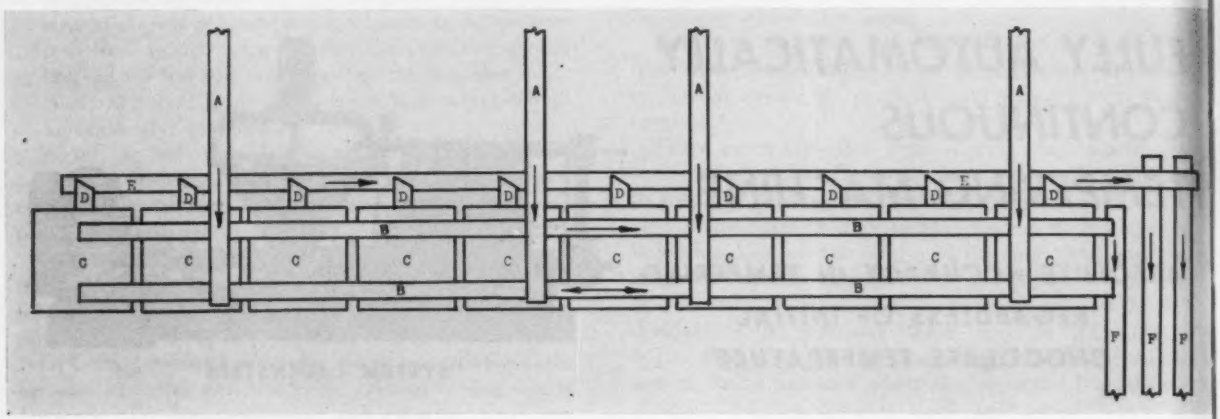




Modern materials handling at F & F

by Stanley Allured, *editor*

WHEN F & F Laboratories decided to get into the candy business after the war, they were determined to build the most modern plant that was possible for hard candy production, quality control, and handling and packaging. We are describing here the system that is employed to take the candy from the die machines, cool it, assort it, and convey it to the packaging equipment. The purpose of this system was to make the conveying and holding equipment as versatile as possible, and at the same time entirely automatic.

The diagram at the top of this page shows the conveying system for cooling the candy. The candy from the die machines drops on to a belt that travels 30 feet through a cooling tunnel (#1 on diagram). After it emerges from the tunnel, it is shunted on to a return elevating conveyor (#2), then on to a two-pass conveyor (#3, #4), and by a short conveyor to a sorter that removes the candy with bubbles. The candy then rides a long elevating conveyor (#5) to the storage bins.

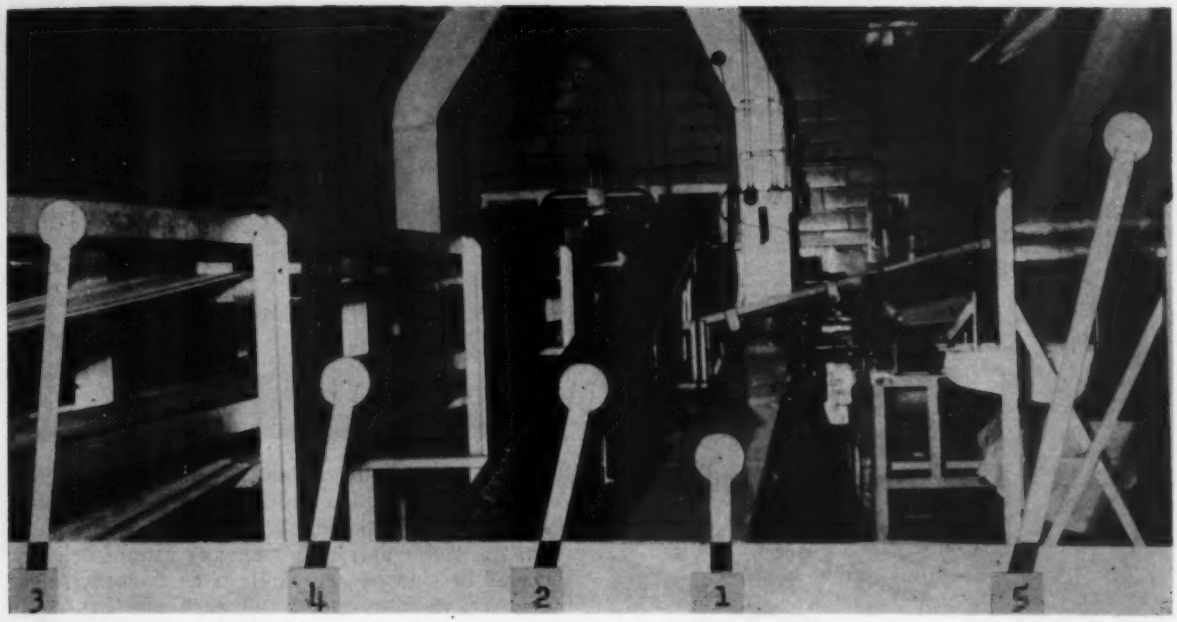
The room in which this conveying and cooling takes place is kept at about 70 degrees, and the relative humidity at, or below, 40%.

The second diagram shows the assorting and holding equipment. There are four identical systems as described in the top diagram. There are, therefore, four elevating conveyors (#5), which are shown as "A" on the bottom diagram. These conveyors unload onto either of the two cross coneyors, "B". The candy may be shunted from these cross conveyors into any of the bins. One "B" conveyor may carry the candy from one or two of the "A" conveyors, and can deposit the candy into one or two bins.

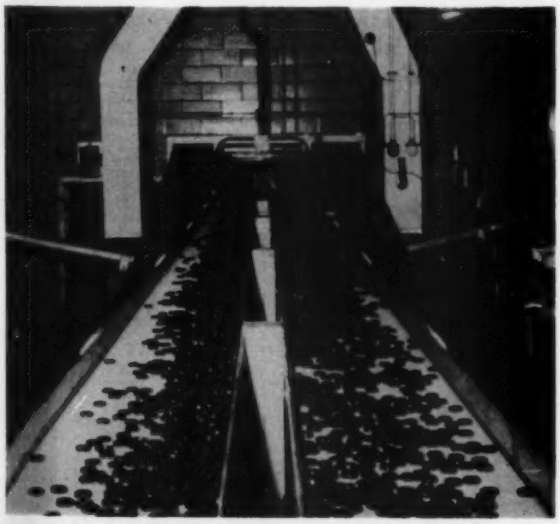
The candy may stay in the bins from a few hours to about a week, until needed. As long as the relative humidity is kept below 40%, the candy will not suffer any adverse effects of storage in these bins. Each bin is fitted with a Syntron feeding mechanism and a chute which feeds conveyor "E". The Syntron units can be set to deliver anywhere from a few ounces to about 15 pounds a minute. Each unit is separately controlled, so that different proportions of candy may be fed from the different bins. Conveyor "E" can take candy from any number of bins, depending on the number of varieties in the assortment. By a combination of Syntron speeds and number of bins, any possible assortment of candy, in any proportion, may be made.

Conveyor "E" feeds either of the two right hand "F" conveyors. These two conveyors supply the packaging department, one the roll machines and the other the boxing machines.

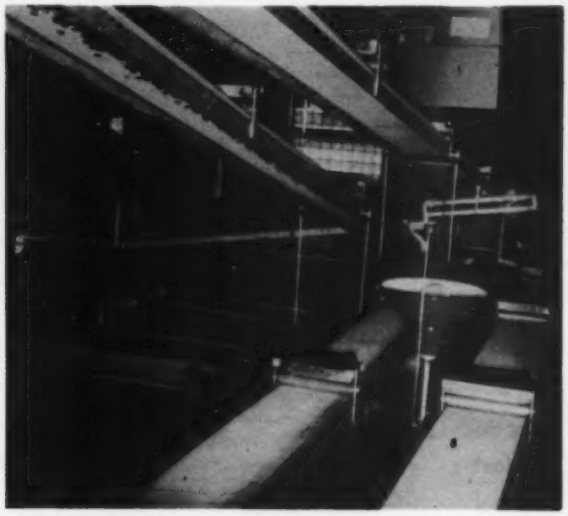
The cross "B" conveyors may bypass the bins entirely, and deposit onto the left hand "F" conveyor, which also feeds the packaging machinery.



The above photograph shows the system that is diagramed at the top of the facing page, and the numbers on the photo correspond with those on the diagram. Note that the conveyors are arranged in a compact manner, and yet are easily reached for inspection and cleaning. There are four complete units like this in this room, each with completely separate cooling and conveying system. The walls of this room are tile, and the windows are glass brick, allowing easy and thorough cleaning. One big room includes these four systems, and bins, and the packaging machinery.



The above photograph is an overhead view of two cooling conveying systems. One system is as diagramed at the top of the facing page, the other is identical except that it is reversed. Therefore, the two "1" tunnel conveyors are on the extreme right and left sides, and the two "32" conveyors are shown side by side in the picture running from the background of the picture toward the front. Two transfer conveyors can be seen running out of the picture on the center right and left sides, which carry the candy from the "4" to the "52" conveyors. The ducts coming down from the top of the picture carry cold air which feeds the two tunnels.

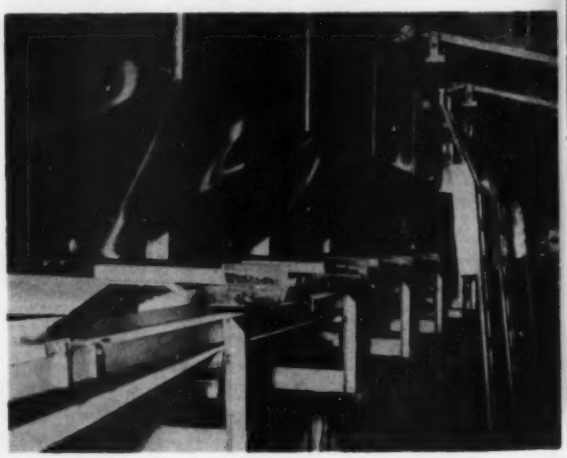


This view shows the delivery end of the assorting system. The two lower conveyors are identified "F" on the second diagram on the first page of this article. They carry the mixed candy from the assorting conveyor "E" to the packaging equipment, in the far right background of the picture. The two upper conveyors take the candy which by-passes the bins from the "B" conveyors directly to the packaging equipment.

This system is "push button" materials handling in its truest sense. There is no man-handling of candy in this plant between the batch former and the delivery conveyor from the packaging equipment.

This is a close-up of one of the bins with a Syntron feeding unit. Each bin is separately controlled with its own Suntron, shown to the right of the bin. Each unit may be set for any rate of delivery, or may be shut off separately from the others. The bins are stainless steel, and each one has a fan blowing into it to circulate the cool and dehumidified air. The feed through the Syntron is very gentle, and a sloping chute feeds the candy onto the moving cross belt, so that there is no chipping or breakage to the brittle hard candy.

The control box shown at the left contains a rectifier, a rheostat, and the on-off switch. Alternating current is fed to the rectifier, and is changed to half-wave current which activates the magnetic coil to provide a vibration of 3600 per minute. The rheostat governs the amount of current, and therefore the intensity of the vibration, providing a wide range of flow rates. The vibrating channel is suspended from the center, and vibrates along its entire length.



This is a view of the line of storage bins. Three "A" conveyors (second diagram, facing page) can be seen coming in from the top right of this photo. These bring candy from the cooling system to the bins. Several feeding chutes are visible. These are fed by the Syntron units and provide an unlimited assortment on the cross belt.

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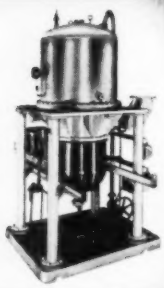

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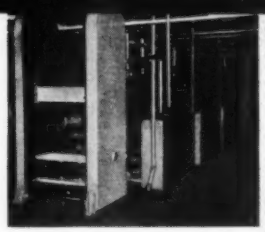

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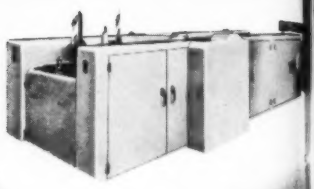

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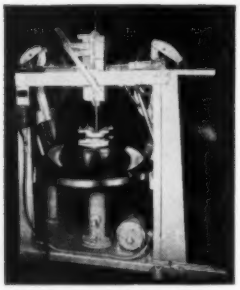

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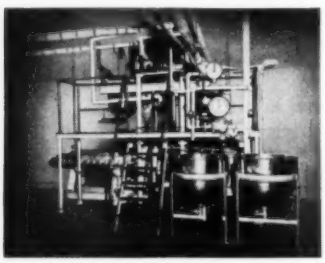

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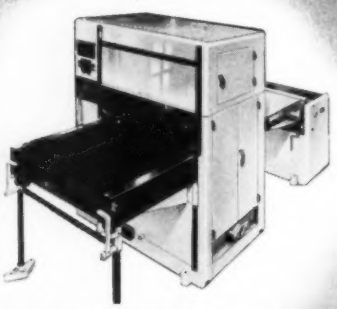

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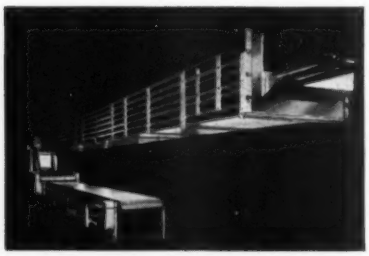

National Automatic Multiple Tier
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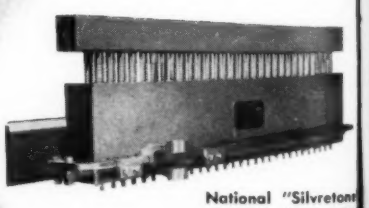

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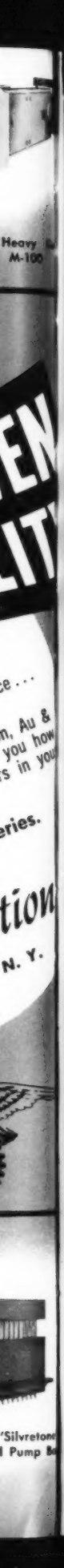


A selection from the Easter line of Lindt.

A melangeur of the Lindt & Sprungli Chocolate Works.

Modernization at Lindt & Sprungli

ONE of the oldest chocolate factories in Switzerland, Lindt & Sprungli recently completed a thorough reorganization and modernization program. Entire departments were moved in order to streamline their production and ease the material handling procedures. Many old machines were replaced, and over 90% of the retained machines changed locations.

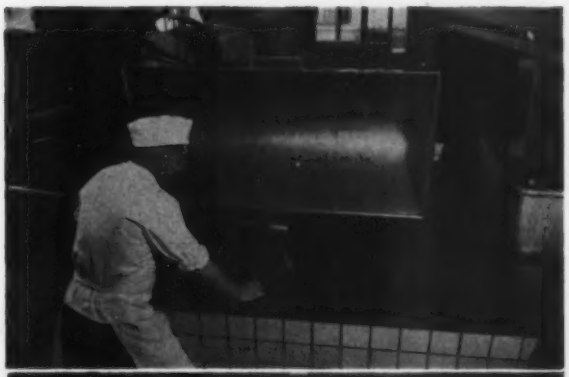
Lindt & Sprungli employ 1200 workers, and are the second largest chocolate factory in Switzerland.

Intensive studies have convinced the directors of this company that all of the modern chocolate processing methods are not compatible with the old established tradition of quality associated with the Lindt trademark. Therefore, some were not adapted, such as continuous bean roasting, and continuous conching.

It was Rudolphe Lindt who was the first to add cocoa butter to ground beans, creating smooth eating chocolate. In addition, he also invented the conche, and was therefore the original manufacturer of really fine chocolate. In 1899 he sold his recipes to the Sprungli family, and the fifth generation of this family now manage the business.

Lindt & Sprungli are now the second largest of 37 chocolate factories in Switzerland, a larger number than are in the United States. This country of 4½ million inhabitants has an annual chocolate production of 16 lbs. per capita.

The company provides a day nursery and kindergarten where working mothers may leave their children during the day.



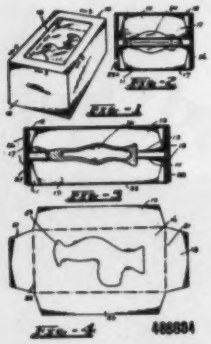
A view into one of the many conches in the Lindt plant. Note that it is tiled on the outside for easy cleaning

Women, wearing rubber gloves, take the chocolate bars from the end of the moulding machine.

The Lindt Kindergarten where women working in the factory leave their children during the day.

Patents

488,884—Canada
Containers
Louis Light, Montreal, Quebec, Canada, assignor, to Federal Confectionary Incorporated, Montreal, Quebec, Canada
Application March 6, 1950, Serial No. 598,283
3 Claims



1. A container comprising a box having an opening through one wall thereof, a transparent section covering the opening of the wall, an insert having a cut out section therein and formed in the particular shape of an individual article to be packed in said container and being approximately the same size as the article and following the contour thereof, the insert being adapted to be freely seated in said box.

2. A container comprising a receptacle, an insert having a cut out section therein and formed in the particular shape of an individual article to be packed in said container and being approximately the identical size as the article and following the entire contour thereof, the insert having downwardly extending flanges for engagement with one of the walls of said receptacle, an enclosure means for said receptacle.

3. In containers, a container comprising a box having an open top, a transparent section forming part of the top of said cover, a bottom insert adapted to be freely seated within said box, said bottom insert comprising a flat shelf portion having downwardly extending sides and ends adapted to be seated on the bottom of said box to support said shelf portion thereabove, said shelf portion of the bottom insert being formed with a cut out section therein in the particular shape of an individual article to be packed in said container and being approximately the same size as the article, the said shelf portion of said bottom insert adapted to have the article selected mounted thereon the same being positioned to the cut out section, an upper insert adapted to be positioned within said box over the article supported by said bottom insert, said upper insert comprising a flat body section having upwardly extending sides and ends, said body sections having a cut out section therein identical in size and shape to that of said bottom insert and adapted to be positioned over the top of the article on said bottom insert to engage therewith, adapting the article to be maintained within said box clear of the surface thereof and immovable with respect to the same, said upwardly extending sides and ends of said upper insert terminating at approximately the top edge of the box adapting said cover when fitted to the box to engage the same thus maintaining the upper insert in tight engagement with the article.

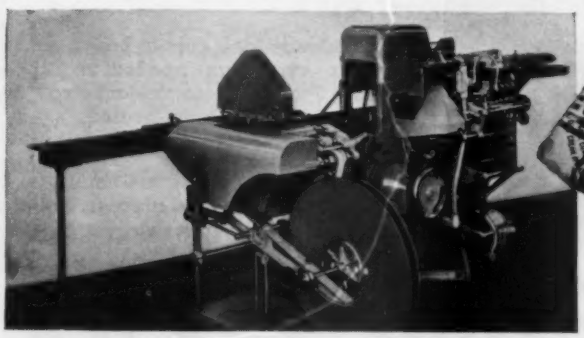
Delicious!

But it needs an attractive wrap to make it SELL

The EYE must be attracted before TASTE can sell a bar. That's why a smart, uniformly neat and attractive wrap is so important . . . and why leading bar makers use the DF-1 machine.

With the Model DF-1 you get a perfectly registered wrap in neat box-like form, *no matter how irregular the bar may be.* And you can save by using lighter board stock by virtue of its roll-card feed. A straight-through machine, the DF-1 lines up perfectly with the enrober belt. Speed, 140 a minute. Practically any type of material can be used, including Thermoplastic spot-coated materials. Quickly adjustable for different sizes.

Consult our nearest office for full particulars



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Waldorf-Astoria Hotel, New York—June 16-18

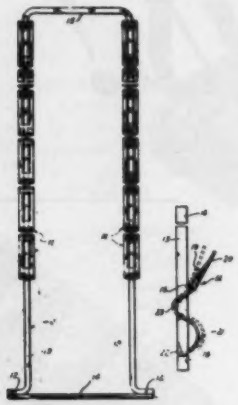
PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS

NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS
DENVER LOS ANGELES SAN FRANCISCO SEATTLE TORONTO MEXICO, D.F.

2,583,092

PACKAGE DISPLAY RACK

Asher Dreyfus, Jr., Oklahoma City, Okla.
Application February 3, 1950, Serial No. 142,161
2 Claims. (Cl. 211—71)



2,620,607

CANDY BOX CRADLE SHAPER AND BOX FEEDER

George C. Sparks, Chadds Ford, Pa.
Application September 7, 1951, Serial No. 245,583
7 Claims. (Cl. 53—69)

1. A candy box cradle shaper and box feeder comprising a hollow upright standard open at the top, a platform in said standard to support a column of nested boxes, the upper edges of which are capable of being flexed inwardly, spring actuated mechanism to urge said platform upwardly for elevating the boxes, stop fingers to be engaged by edges of the uppermost box in the column to temporarily arrest the upward movements of the boxes and platform, the uppermost box being disengaged from the fingers for removal from the column by flexing portions of said uppermost box and the removal thereof causing the column of boxes to move upwardly until the edges of the succeeding box engage said fingers, a shelf on one side of the standard adjacent the upper end thereof, and an article supporting cradle shaper on said shelf, said shaper consisting of two spaced upright brackets secured to the top of said shelf, a three-piece hinged rest having the end pieces loosely pivotally connected to the brackets with the center piece capable of depression between said brackets to swingingly move the end pieces generally inwardly for folding apertured end leaves of a cradle over the ends of an article resting on a central web of the cradle prior to insertion in the uppermost box of the column of boxes, the depression of the center piece of the rest being accomplished through pressure applied to the article, and a spring to retract the rest.

1. In a package display rack having an upright provided with vertically spaced notches and a substantially uniform cross-sectional area throughout the length thereof, a clamping member slidably mounted on the upright and formed from a flat strip of resilient material, said strip being bent tintermediate the ends thereof to form a V-shaped member, said strip having a slot at each side of the apex of the V-shaped member, said slots being in longitudinal alignment for receiving the upright, one end of the bent strip forming a means for clamping an article onto the upright, the other end of the strip providing a releasing means for rocking the clamping means away from the upright, and a finger projecting from one end of the slot adjacent the releasing means and having the free end engageable with a noth on the upright, said finger when so engaged acting as a fulcrum upon which the clamping member is rocked.

The SAVAGE
Scientific Cooling or Heating Slab

By Repeat Orders Candy Manufacturers have acclaimed this slab because . . . .

THE SAVAGE COOLING OR HEATING SLAB IS FASTER—Will cool about 20% faster than any slab on the market. REGULATED—Will give even cooling or heating at all times. No hot spots. STRONG CONSTRUCTION—Steel plate highly ground and polished. Consumption of water is minimum. It will withstand 125 lbs. working pressure. It is permissible to use refrigerated water. CONVENIENT—Iron pipe legs are equipped with extra long threads in order to adjust where floors are uneven. Available in standard sizes and special sizes to order. Also ideal for enrober bottomer table. ECONOMICAL—Unnecessary to take apart and clean out sediment or do any of the usual repairs encountered with steel cooling slabs.

A FEW SPECIALS IN REBUILT MACHINERY

- National Steel Mogul with three Depositors
- 50 gallon Model F-6 Savage Tilting Mixer with stainless kettle.
- Model K #3 Savage Fire Mixer.
- 50" two-cylinder Werner Cream Beater.
- 1000 lb. Werner Syrup Cooler.
- 200 lb. Savage Flat Top Marshmallow Beater.
- 600 lb. Continuous Cooker with two 60 gallon kettles.
- Simplex Gas Vacuum Cooker, also Steam
- Form 6 Style R and Form 3 Style D Hildreth Pullers.
- 6' and 7' York Batch Rollers.
- 2000 lb., 1000 lb., 800 lb. and 300 lb. National Chocolate Melters.

Since 1855

SAVAGE BROS. CO.

M. A. Savage, President • Richard J. Savage, Jr., Vice President

2638 GLADYS AVE. CHICAGO 12, ILL.

What's New in Candy Equipment

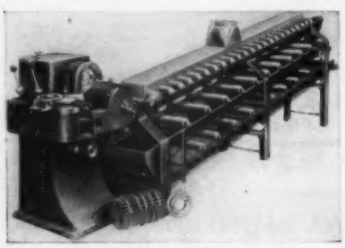
types. For any further information write to THE MANUFACTURING CONFECTIONER, *418 North Austin Blvd., Oak Park, Ill., or write direct to the supplier listed.*

Electrically Operated Steam Generators

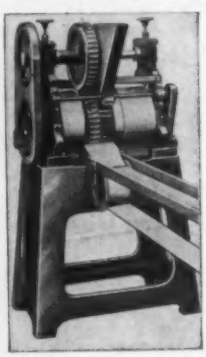
. . . which are based on a new design, electrode heating elements, are now available. They are primarily for 440V power supply, and require less than one-half square foot per boiler hp. They operate at 98% efficiency with unity power factor, have no tubes to scale, require no feed water treatment or daily blow-down. Standard sizes are up to 60 Bhp and pressures to 500 Psi. Larger units are available. For further information write: *Livingstone Engineering Company, 100 Grove St., Worchester 6, Mass.*

Automatic Hard Candy Whistle Machine

. . . has been introduced into this country. The operation is completely automatic, delivering between 50,000 and 100,000 pieces per day, depending on the size and weight. Three standard sizes are available: for whistles with sticks from ⅓ ounce to 1 ounce; for double tone flutes from ¼ to 1 ounce; and for small whistles without sticks and pipes from ⅛ to 1 ounce. This same firm has also introduced a Hard Candy Compressor which will handle up to 4,000 pounds per day of filled and solid hard candy, plain and fancy pillows and satinettes, balls and ring types. All of these machines are manufactured by the Romer Company of Germany. For further information write to the exclusive sales agent for the U. S. and Canada: *Peerless Confectionery Machinery Company, 158 Greene St., New York 12, N. Y.*



Hard Candy Compressor



Automatic Hard Candy Whistle Machine

High Speed Mixer

. . . for blending liquids and dissolving powders is available. This unit similar in design to the standard laboratory mixer, but on a larger scale. Mixing action is accomplished by a six-fluted agitator driven circularly

JUST PUBLISHED

How to Salvage Scrap Candy

by WESLEY H. CHILDS

This booklet is a complete revision of the authors work "Modern Methods of Candy Scrap Recovery" published in 1943. A considerable amount of information has been collected since that time on methods and techniques of salvaging scrap candy. This booklet covers all types of candy, and gives many practical and economical ways of converting scrap candy into a useful form for re-use.

Candy Production Methods and Formulas

by WALTER RICHMOND

This is a big 640 page book designed to give practical information on (1) ingredients and cooking action, (2) mixing, casting, coating, etc., (3) trouble shooting. Over 500 formulas are given, with the methods of processing, and their reasons why.

A Text Book on Candy Making

by ALFRED E. LEIGHTON

Here is a text book where the reader can learn the basic fundamentals of candy making, the "how" and "why" of the various operations in non-technical terms. Particular attention is given to the function of raw materials, and why each is included in a formula.

Confectionery Analysis and Composition

by STROUD JORDAN and KATHERYN LANGWILL

This volume concerns the reconstruction of formulas from analytical data. Where satisfactory methods of analysis are of general knowledge they are incorporated by reference. All specially developed methods and procedures are incorporated in detail.

☐ How to Salvage Scrap Candy
$2.00

☐ Candy Production Methods and Formulas $10.00

☐ A textbook on Candy Making
$6.00

☐ Confectionery Analysis and Composition $3.50

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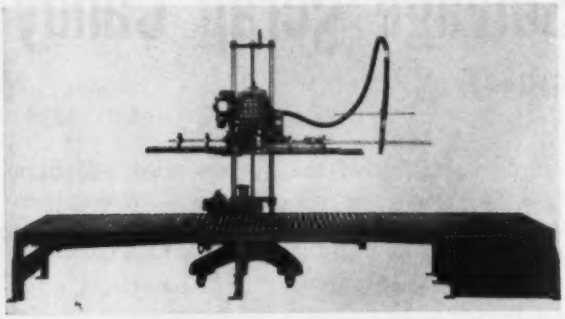
by a 1750 rpn motor. Capacities are 8, 15, 25, 50 and 75 gallons. For more information write: *Cherry-Burrell Corporation, 427 W. Randolph St., Chicago 6, Illinois.*



High Speed Bag Sealing

. . . is accomplished with a live-roller motor driven roller bed conveyor; synchronized with the speed of the sealing machine. Packages are carried to the machine where a special extractor quickly removes excess air from the bag providing for a flat, clean seal and attractive package. The sealing machine is supplied with full length heating elements mounted on both sides. Extended length of the preheater provides long dwell time and maximum heat penetration to the sealing surfaces. Heat is controlled by highly accurate thermostat. Machine is equipped with standard 5/8″ width sealing bars (other bars available). The range of the sealing head vertical adjustment is 30″. Sealing head is motorized for quick positioning. Maximum package dimensions are 47″ high, 35″ thick and unlimited width. Occupies floor space of 34″ width by 54″ long. Overall height is 76″. Standard sealing speed is 480 lineal inches per minute. For further information write to: *Amsco Packaging Machinery, Inc., 31-31 48th Ave., Long Island City 1, N. Y.*

Industrial Elevators

. . . and portable cranes are described in a 36-page bulletin. Included are hand and electrically operated types, with single, hinged and telescopic uprights. Load capacities are from 500 to 5,000 pounds, any platform dimentions, and with lifting heights up to 30 feet. Low-priced standard models, which will meet most elevator requirements are shown. Also shown are pallet elevators, barrel and drum dumping types, revolving base types, and floor-to-floor (stationary) types. Portable crates with fixed or revolving bases, and hand and electric hoists are also described. For further information write: *Barrett-Cravens Company, 4613 South Western Blvd., Chicago 9, Ill.*

Imprint Two Panels of Cases

. . . simultaneously, without turning the cases. This coding machine will imprint the same code on two adjacent sides of a shipping case on a conveyor line or sealing line to facilitate identification. For more information write: *Adolph Gottsho, Inc., Hillside 5, N. J.*

V-Type Underfold Wrapping Machine

. . . has been developed to provide a tight, water-proof seal that protects products that are affected by dampness. This type of fold makes a very neat package, and can be used with most wrapping materials. For further information; *Hayssen Manufacturing Company, Sheboygan, Wis.*

new help to sanitation in candy making . . .

GROEN

STAINLESS STEEL STEAM JACKETED VACUUM PANS

OTHER GROEN CANDY PLANT EQUIPMENT

Model NRP-38
STEAM JACKETED

REVOLVING PANS
Model RP-38

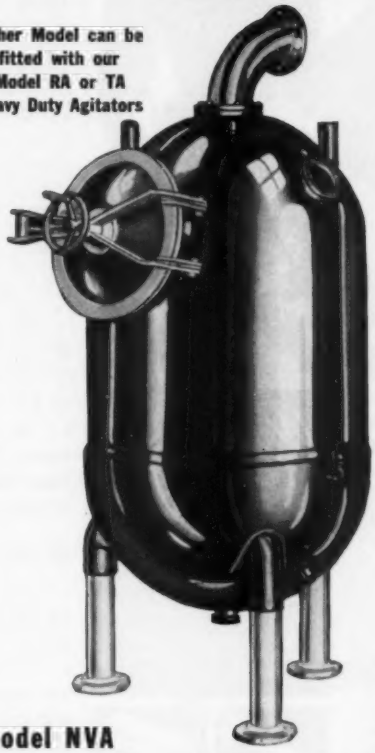
Model LSP—Filter

AGITATOR KETTLES
Model TA Twin Shaft
Model RA Single Shaft

Model AED—Electric
DOWTHERM
Model AHD—Gas
HI-TEMP. KETTLES

Model N Kettle

Either Model can be fitted with our Model RA or TA Heavy Duty Agitators



Model NVA

GENERAL-PURPOSE VACUUM KETTLE

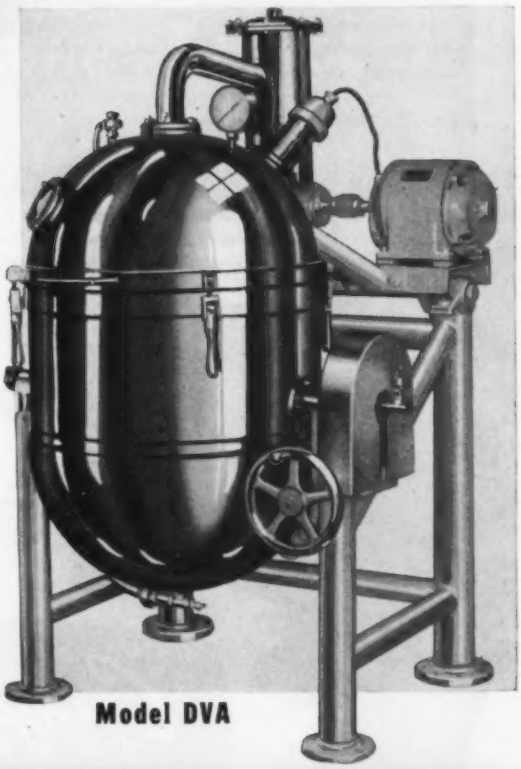
A stationary steam jacketed vacuum cooking kettle intended for general purpose use for fast removal of moisture at low temperature. Excellent craftsmanship and material typical of all GROEN-built units... with thorough sanitation a foremost consideration. A strikingly handsome unit; and its performance is in harmony with its fine appearance.

TILTING VACUUM KETTLE

Model DVA, shown at right, is a tilting-type special purpose vacuum cooking unit. Modern sanitary design throughout. Note the clean-cut, streamlined appearance. Observe the open, unhindered accessibility around and under the unit. Nothing to impede easy cleaning. Everything to simplify complete compliance with the most rigid sanitary codes.

GET DETAILS. WRITE FOR BULLETIN VP-1

See the famous GROEN candy plant equipment at the N. C. A. EXPOSITION—Waldorf Astoria Hotel, New York—June 14-18—our Booths 1 and 2. Used in producing best known brands for half a century, it has definitely proved its performing ability; and the unit you choose will satisfy your most exacting demands. Strictly sanitary . . . COMPLIES WITH THE MOST RIGID HEALTH DEPT. CODES. Modern design . . . precision engineered to function perfectly in your production line. • And for EXTRA-HIGH-SPEED heating ask about our ROTA-THERM JACKET . . . available on all GROEN Stainless Steel Kettles for super-fast operation.



Model DVA

GROEN MFG. CO., 4529 W. ARMITAGE AVE., CHICAGO, ILL.
WORLD'S LARGEST PRODUCERS OF STAINLESS STEEL STEAM JACKETED KETTLES

One hundred percent Automatic carton stapling machine for closing center slotted cartons

. . . has been developed. Designed to fit into existing conveyor systems, the stapling machine is built to include a conveyor belt that receives the filled carton from the main conveyor system. The carton first is centered automatically on the belt in position for the proper cross stitch stapling. Then an automatic device closes the end flaps, then the side flaps.

As soon as the end flaps are closed, two automatic retractable anvil stapling heads lower to the carton top, and drive staples at predetermined positions along the center slot. After the staples are driven, the anvils retract, and the heads rise from the carton, allowing the carton to continue on to the main conveyor. The machine is air operated, will staple from 800 to 1000 cartons per hour, and is adjustable for cartons from 5″ to 11″ high, 8″ to 12″ wide, and 11″ to 17½″ long. Further details from: The International Stapling Machine Company, 801 Herrin St., Herrin, Ill.

Heavy Duty Elec. Dehumidifier

. . . which is said to retail at about half the cost of conventional air drying equipment. It is a complete, self-contained unit, automatically removing excess water or moisture from the air of enclosed spaces. The only installation necessary is the electric outlet. It may be hooked up to a drainage system or caster mounted for mobility. Further information from: Air Conditioning Division, Remington Corporation, Auburn, New York.

Continuous Automatic Mixer

. . . of a small size has been announced for smaller plants, and those with limited production capacity. This is a smaller edition of well known Oakes Continuous Mixer. Production is said to be up to 1500 pounds per hour for candy marshmallow, and 800 pounds for nougat. It is very flexible, as it is possible to slow down the production to about 50 pounds per hour for experimental work. The production is about one-half that of the older and large mixer. Fur-

ther information from: The E. T. Oaks Corporation, Commack Road, Islip, Long Island, New York.

"Tear Tape" Opening For Cello Bags

. . . is the newest bag making improvement announced recently. The new attachments adaptable to all Simplex cellophane bag making machines. It automatically applies a "tear tape" strip to the inner side as the bag is formed from flat stock. Two small knives at the cutting head nick the folded bottom seal to provide an easy start to the tearing action. A nicked area is also provided on crimped bottoms bags. A gentle pull on the tear tape strip completely opens packaged products. The attachment in no way reduces the speed or efficiency of the bag making operation. Further information from: Simplex Packaging Machinery, Inc., 534-23rd Ave., Oakland 6, Calif.

Humidity Control Bulletin

. . . has been issued which describes humidity measuring element and the methods of installation. A new type humidity sensing element allows a tolerance of plus or minus ½% relative humidity, over a span of temperatures from 40 degrees to 130 degrees F. As many as sixteen separate records can be kept of relative humidity in as many locations on one recording device, all in a central monitoring station. Since the RH is measured directly, there is no need to consult a table to convert wet and dry bulb readings to R.H. Further information: Minneapolis-Honeywell, Industrial Division, Wayne and Windrim Aves., Philadelphia 44, Pa.

A Water Softening Bulletin

. . . has just been released describing the principles and details of zeolite water softening, in addition to literature on ion exchange. The bulletin explains the distinction between the sodium cycle and the hydrogen cycle of zeolite softening and shows the differences in results obtained by the two processes. A description is also given of the design and operation of equipment used in zeolite water softening and the available methods for controlling the various operations in the softening and regenerating processes.

Another section describes the various types of modern zeolite or ion exchange materials, and a final section contains a simple method of sizing zeolite softeners, with a table of recommended flow rates and examples showing how the size of a softener would be determined to meet specific requirements. Send for this bulletin: Graver Water Conditioning Company, 216 West 14th St., New York 11, N. Y.

Constant-Weight Feed

. . . is now available in the form of a scale mounted conveyor. This feeder delivers a constant flow of dry, free-flowing material from 75 to 3,000 pounds per minute. The weight is accurate to plus or minus one percent during any two minute period. A counter records in hundredths-of-a-minute the duration of any run, so that the weight of any run can be very accurately determined. For more information write: *Richardson Scale Company, Clifton, N. J.*

A Digest of

Technical Literature

World-wide developments and research in confectionery and food processing techniques are noted for confectionery manufacturers.

An Improved Manometer Technique for Evaluating the Oxidation Stability of Coldprssed Orange Oil

J. W. Kesterson and R. Hendrickson, Food Technology, Vol. 5, No. 6 (1951)—An improved manometric technique has been developed by which the true oxygen uptake of coldpressed orange oil can be determined. The CO_2 and H_2O evolved by the oil is removed so more realistic stability values can be expected.

The Candy Industry

Calvin K. Kazanjian, 36 pages, illustrated, 1946, $1.00.

This monograph describes the confectionery industry, cites the magnitude and scope of candy in our diet, and speaks in general terms of the future.

The purpose of this monograph is to show the vocational opportunities in confectionery and arouse the interest of job-seekers and students to the possibilities offered. Jobs are listed with their specifications. Training programs and opportunities are given.

The author, president of Peter Paul, Inc., has succeeded in his task, presenting in a concise manner, the confectionery industry to those interested in seeking a vocation.

"The Chocolate Industry" and "The Candy Industry" are two monographs which should be available to high school students and new employees of the industry. If we are proud of our work, we should try to recruit new men and women for the confectionery industry. To continue prosperous, our industry must procure intelligent workers.

—W. H. C.

Elements of Food Engineering, Volume 1

Milton E. Parker, E. S. Harvey, and E. S. Stateler, ix plus 386 pages, illustrated, 1952, $8.75.

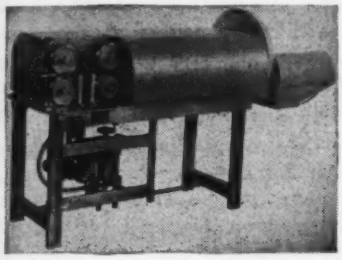
"Food engineering is concerned with the design, construction, and operation of industrial processes and plants in which intentional and controlled changes in food materials are performed with due consideration to all economic aspects involved."

Sub-divisions are: Engineering Factors in Food Processing; Agricultural and Nutritional Aspects of Food Production; Foods and Food Processing; The Food Processing Industry; Wheat and Corn Flours; Rice and Oats Milling; Minor Cereal Flours; Fats and Oils; Sugars, Syrups, Starches, and Gums; Food Protein Derivatives; Spices, Essential Oils, Condiments, and Flavoring Extracts; Beverages and Fermentation Products; and Nuts.

This New Machine Should Be of Interest to YOU

The Racine Confectioners' Machinery Co. is producing a machine which will handle solid sticks, clear or pulled, as well as sticks with honey-combed centers. Called the Racine Stick Candy Machine, it sizes, twists, and cuts the sticks of any diameter and length.

Requiring only one operator to feed the machine from a batch roller or flat board, the machine sizes, twists and cuts automatically.

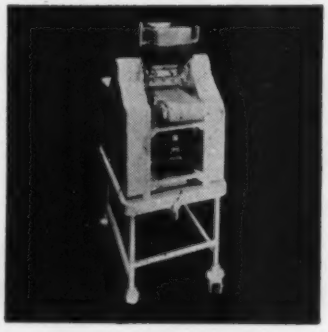


The operating speed is controlled by a variable speed transmission. Capacity is from 300 to 900 inches per minute. It can turn out 300 one inch sticks or 100 nine-inch sticks per minute.

Complete information is available from **Racine Confectioners' Machinery Co., 15 Park Row, New York 38, N. Y.**

NEW BANTAM DEPOSITOR MEETS REQUIREMENTS OF ANY SHOP

Newest addition to the Racine Depositor family—the 6" Bantam, is perfect for depositing of any kind, size or



shape—creams, mint or chocolate patties, cocoanut kisses, pralines, mounds or bars, maple moulded creams, gum drops, marshmallow or nougat pieces, chocolate bars, kisses, miniature and large bits, stars, leafs, wafers, nonpareils, etc. Deposits can be made in all types of molds, foil or paper cups, or direct on trays, plaques or belts.

Main drive electric motor and electric water circulating pump operate from any light circuit. No other connection is necessary. For complete details write **Racine Confectioners' Machinery Co., 15 Park Row, New York 38, N. Y.**

The authors state, "A food engineer has to have adaptability in all manner of food-processing industries." Confectionery is dependent upon many varied raw ingredients. A knowledge of the processing of these ingredients should be of benefit to the candy processor. Important unit operations are listed—these hold for every division of the large food manufacturing industry, though all may not necessarily be used by each division. Learning how the 'other fellow' operates enables us to improve our methods.

Exceptionally 'strong' chapters are those dealing with Fats and Oils, and Sugars. This should not be interpreted as meaning that the other chapters are weak. This book is very readable and should fill a definite need, that of acquainting the reader with the processes involved in food manufacturing. This is the first of the three volumes planned in this new field.

This reviewer would like to compliment the authors for their success in this initial volume in a new field. However, in this reviewer's opinion, strength would be added were more references for suggested reading included in the succeeding volumes.

—W. H. C.

Sugar Manual

Hawaiian Sugar Planters' Association, Honolulu, T. H., U. S. A. Revised May 1952, 46 *loose leaf pages in leather binder.*—The contents are in three sections; Section 1 gives general information about Hawaii; Section 2 gives information about the sugar industry in Hawaii, and

Section 3 gives general information about the world sugar industry.

Of special interest to candy manufacturers are the following tables: Annual Average Sugar Prices from 1890 through 1951; Beet Sugar Production in the U. S. by States; World Sugar Production; U. S. Consumption and Population from 1886 through 1951; Sugar Deliveries by Type of Product or Business in the U. S. for 1951; and U. S. Weekly Distribution of Sugar for 1950 and 1951.

This valuable reference should be of value to candy plant purchasing departments.

—W. H. C.

Chemical Properties of Sesame Oil

Pierre Budowski and K. S. Markley, Chemical Reviews, Vol. 48, *No.* 1 (1951).

This is a complete study of sesame oil. Extraction and processing, composition, color reactions, stability, nutritional value, physiological properties are detailed following an interesting introduction. The oil has marked stability.

"*A Survey of the Literature of Dental Caries*," has been published recently by the National Research Council. This 567-page book summarizes the major findings of a 10-year study of the causes of tooth decay. No final "yes" or "no" as to the causes emerged from these studies. (Editor's Note: A moratorium for sweets—no red light yet—but watch the traffic. Refer to the M.C, November, 1951, "Candy and Your Diet" by Dr. G. W. Rapp.)

CANDY EQUIPMENT PREVIEW

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MAY **1953**

Supply Field News

Rodney Hunt Machine Co., announces the appointment of David A. Kuniholm as Manager of its Special Products Division in addition to his duties as Manager of the Industrial Roll Division.

Charles Pfizer & Co., Inc. has appointed Robert H. Briggs as manager of the chemical sales division. Mr. Briggs, who assumes his new duties immediately, has been serving as assistant manager of the division he now heads. He will supervise bulk sales of Pfizer antibiotics, vitamins, citric acid and other chemical products. Marshall N. de Noyelles, who has been national field sales manager of the chemical sales division will be assistant manager of this division.

Refined Syrups & Sugars, Inc. has just published a Brochure on the development of liquid sugar from its birth in the middle twenties to its present position in the food industry, called "Pursuit of an Idea." Written in narrative style, the text begins with the early efforts of D. V. Wadsworth, the originator of liquid sugar, to establish a foothold for the idea. The book centers around the subsequent birth and growth of the Refined Syrups organization and its success in specializing in this food manufacturing innovation.

Geveke & Co., Inc., has taken over the Machinery Department of Steinhardter & Nordlinger. Under the continued direction of Dr. E. M. Huttrer, who will be assisted by his entire present staff, the activities of this department will be greatly expanded. Among the manufacturers of chocolate machines, candy making equipment and automatic packaging machines represented by this concern are Fr. Hesser, Bauermeister, Leosch, Glentco, Theegarten, Jahn and Barth. Geveke & Co., Inc., was originally established in Amsterdam in 1876.

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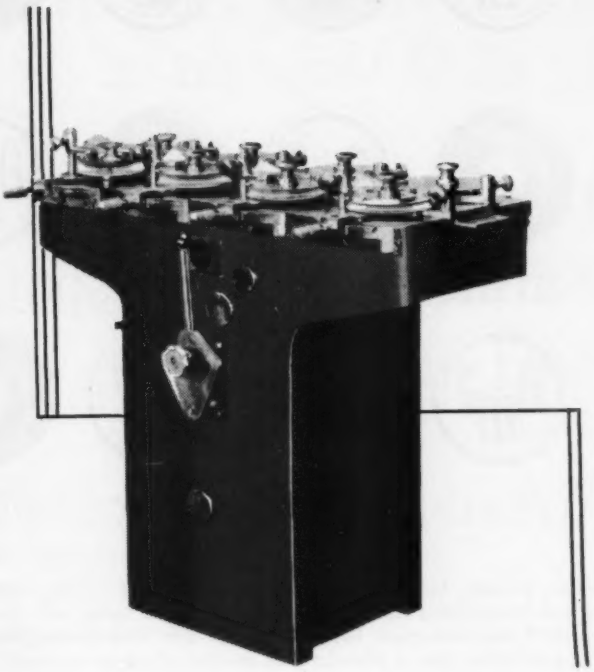

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Sugar rope (filled or unfilled), upon leaving the batch roller, is fed to the C&M Sizing Machine. Here, four sets of sizing discs reduce the rope to the desired size. The discs are adjustable by means of a graduated scale. And, the entire operation is continuous and automatic.

Variable speed controls synchronize the speed of the C&M Automatic Sizing Machine to the speed of your plastic forming machine, permitting a production-line system. Even unskilled labor can operate the C&M Automatic Sizing Machine with the greatest efficiency at top speeds.

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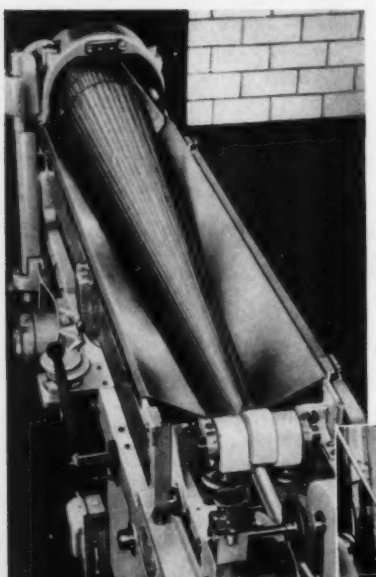
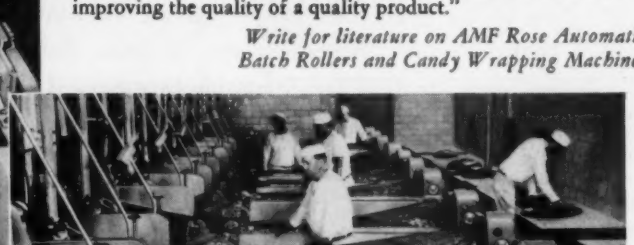
Perfect rope for all 9 Varieties of hard candy Life Savers rolled and spun on 12 AMF Rose Automatic Batch Rollers



Lemon, Orange, Lime, Wild Cherry, Pineapple, Stik-O-Pep, Cryst-O-Mint, Butter Rum and Butterscotch are the 9 flavors of the hard candy Life Savers rolled *and spun* on AMF Rose Automatic Batch Rollers for Life Savers Corp., Port Chester, N. Y. Each Batch Roller feeds a piece-forming machine which stamps over *3,500* Life Savers *per minute!*

Life Savers Corp. has substantially reduced scrap and malformed pieces and makes better utilization of their labor force since the installation of these machines. Their General Manager says: "Our battery of 12 AMF Rose Automatic Batch Rollers has resulted in a very worth while labor saving. We have assigned more than half the operators formerly required—when we have spun our candy by hand—to other production jobs. Also, we have been able to shift elsewhere several men who worked on the cooling tables. AMF Rose Automatic Batch Rollers give us more consistently uniform candy "rope" without manual handling. We feel that this is another step forward in improving the quality of a quality product."

Write for literature on AMF Rose Automatic Batch Rollers and Candy Wrapping Machines.



Ten of the battery of 12 AMF Rose Automatic Batch Rollers at Life Savers Corporation. Personnel keep machines loaded with flavored, hard plastic candy; balance of operation is *completely automatic.*

Batch is revolved intermittently on tapered rollers and fed, *without twisting,* into a series of wheels which form a perfect rope of the exact size required. Irregular hand-spinning eliminated. Variable Speed Drive unit assures perfect synchronization with piece-forming machine. Optionally equipped with electric, gas or steam heaters.

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Is Sorbitol Needed in Pectin Confectionery Jellies?

Low Methoxyl Pectin Versus Citrus Confectionery Pectin in High Solids Candy

by S. D. POULSEN
Customer Service and Research Division
Sunkist Growers Research Department

Some confusion has arisen in the literature and in the trade regarding the advisability of using expensive humectants, such as sorbitol, to extend the shelf storage life of confectionery pectin candies. Despite the reported performance of sorbitol in certain confections, carefully controlled analytical work in our research laboratories indicates that not only is the use of sorbitol *unnecessary* to produce pectin jellies of extremely good storage stability, but the inclusion of sorbitol in the manner recommended by its foremost exponents actually does increase the tendency to "sweat" during conditions of rather ordinary storage.

Pectin Confectionery Jellies can be varied in eating quality from short "clean-biting" texture to a tough chewy character by suitable formula manipulation. The shelf life of these products, properly made, is well in excess of trade demands, even under adverse storage conditions.

The above statements are based on facts obtained through extensive work involving many types of pectin candies, variations in cooking technic, a wide range of storage conditions, close control of the above factors and precise analytical technics.

Although actual long term storage tests on finished candies provide the truest measure of stability, two other tests give an efficient and rapid measure of pectin candy storage ability. They are:

1. A measure of the per-cent invert sugar present in the finished product.
2. Accelerated storage tests, especially those involving cyclic temperature and humidity variations.

Effect of Invert Sugar Content

Hundreds of confectionery pectin jelly batches made during the past 15 years by different individuals have demonstrated conclusively that a high invert sugar content causes pectin candies to "sweat". Sweating is apparently not "bleeding" or syneresis of the jelly since sweating is accompanied by a gain in weight. If the phenomenon was one of bleeding, the candy weight would remain constant or perhaps even drop somewhat due to evaporation or mechanical losses (depending on packaging and storage conditions).

Accurate Measure of Invert Sugar Content

Since any increase in the level of reducing sugars in a

This article is presented to give some additional views on the place of Sorbitol in confectionery manufacturing. With all new raw materials, there is a period of research and development during which their proper use and the effects are determined in conjunction with the many types of confectionery products. Sorbitol, too, will find its place in confectionery, where it will provide qualities that are unique, and that cannot be developed with any other material.

candy batch, containing definite amounts of corn syrup and sucrose, is an indication of the increase in invert sugar due to the hydralysis of sucrose and in as much as invert sugar is a measure of pectin candy "shelf life", it is essential that a simple, and accurate test be used for the determination of reducing sugars. Experience has shown that the Blish Method (or an adaptation of that test) fulfills the above requirements, and has a reproducibility which is found in very few analytical procedures of such nature. Complete details on the Blish Method can be found in "Report on Diastatic Value of Flour" (J. Assoc. Offic. Agr. Chemists 16, No. 4, 497-504 (1933): Ibid 17 No. 3, 394-399 (1934), or information on an adaptation of this method will be sent upon request by the Customer Service and Research Division, Sunkist Growers Research Department, 616 E. Grove Street, Ontario, California.

Desirable Range of Invert Sugar Content

A large number of reducing sugar determinations of batches containing equal parts by weight of sucrose "medium-conversion" corn sirup with correlating storage test results, have indicated that a range of 30-38%, preferably 30-35% reducing sugar (based on total soluble solids weight) will yield pectin candies with extremely good shelf life under as wide a variety of storage conditions as the following:

1. Room temperature in screw capped containers.
2. Room temperature in unsealed containers.
3. Room temperature and 66% relative humidity in unsealed containers.
4. 4°C(39°F) refrigerator storage in both capped and unsealed containers.
5. Alternating storage conditions. Three days in 4°C (39°F) storage then three days 40°C (104°F) storage. In screw capped containers.

Test #5 is particularly severe yet pectin candies made by common procedure have withstood weeks of such a cycling storage without undue change.

Sweating Due to Sorbitol

Although sorbitol contains essentially no reducing substances, repeated tests have shown that when sorbitol is substituted for corn sirup in a conventional pectin candy recipe to the extent of 40%, premature sweating occurs in screw-capped containers even in the case of room temperature storage. The mechanism is not known but the effect is actual. Sorbitol has other specific effects on pectin candy batches such as:

1. Apparent decreased gel strength (pectin grade loss).
2. Lower viscosity during the cook.
3. Longer setting time for the finished batch.
4. Finished candies are of "shorter" less chewy texture.

These changes are surprising since one would suppose that the addition of sorbitol would achieve the effect of increased solids only and have no other specific effects except humectant qualities.

It should perhaps be pointed out that pectin candies made in a manner to result in proper invert sugar levels have been stored in friction top tin containers (five pound quantities of cut and sanded slab pieces, without separators) in cool storage for over five years. The candy pieces left nothing to be desired in the way of eating quality.

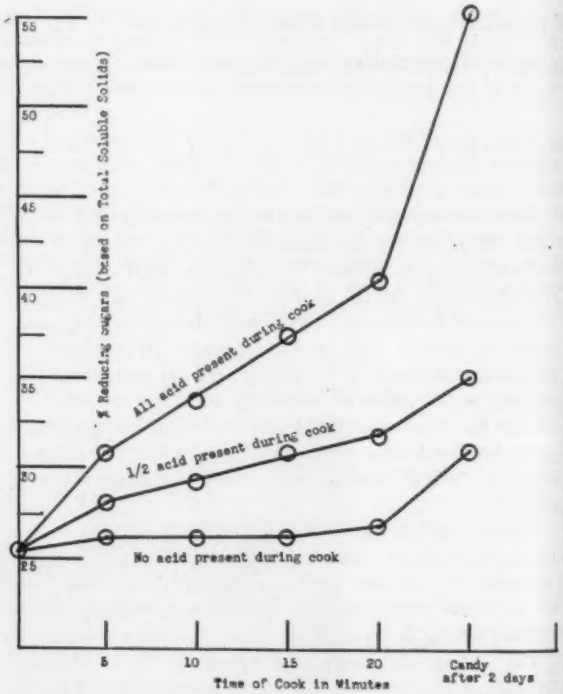
Interesting also is the observation that, in order to obtain experimental candy pieces which will sweat, even under stringent storage conditions, it is necessary to reduce the pectin level, (from well balanced receipes) by 10 or 20% and cook to a relatively low soluble solids content of 75%.

Factors Affecting Invert Sugar Content

Knowing the importance of proper invert sugar levels, factors affecting the level of invert sugar in the finished candy become important. Those factors are:

1. The amount added by way of the formula (honey, fruit, etc.)
2. The amount of acid present during the cook. Actually it is more correct to say the active acidity or pH during the cook, but, as shown in Figure 1, the amount of citric acid present will indicate expected degrees of inversion, other factors being constant.
3. The time of cooking while the acid is present.
4. The temperature of cooking.
5. The amount of sucrose present in the batch.

Items 4 and 5 above are minor if proper formulas and cooking technics are followed. Figure 1 illustrates the effect of variations in the amount of acid present and the effect of time of cooking on the per-cent invert sugar in the finished pectin candy.



Interpretation of Figure 1

It can be seen that amount of acid present during the cook has a pronounced effect upon the rate and degree of sugar inversion. Storage tests show that candies made with all acid present (Using Recipe No. 1 of the Exchange Confectioners Handbook) sweat quickly and excessively. Even though the per-cent reducing sugar at the end of the twenty minute cook was 40%, the inversion continued during casting and cooling to give a level of 55% in the finished candy. This is in marked contrast to the normal

procedure with one half the acid present where the percent reducing sugar at the end of the cook is slightly over 30% and is about 34% in the finished candy. Storage tests made on this candy showed that sweating did not occur under any storage conditions.

The batch which was cooked without any acid present showed essentially no inversion until the acid was added at the end of the cook. Although no surface hardening or crystallization occurred during storage tests of this candy, such procedure is not recommended unless formula changes are made since the very low invert sugar level is almost certain to cause hardening or toughening of texture over extended storage periods. Then too, resultant candies are generally weak due to degradation of the pectin by cooking at such a high pH of 5.5 (low acid). In other words, gel power of the pectin is needlessly lost.

The above batches were identical in levels of pectin, buffer and acid. The finished candies were identical in pH and soluble solids content. The data are reproducible time after time. Samples taken during the cook (for reducing sugar determinations) were immediately chilled with ice water to stop the inversion process. The samples were all cooled to approximately 32°F within 30 seconds after being taken and were kept cold until the tests were made.

To determine the effect of sorbitol on the making and storage of pectin candy, four batches of citrus pectin confection were made. "A and "B" were identical and Table No. 1 illustrates the reproducibility of batch-making technic and analytical procedure. The recipe has been published in the June 19, 1951 issue of *Candy Industry* and was developed cooperatively by the Southern Regional Research Laboratory (S. R. R. L.) of the United States Department of Agriculture and the National Confectioners Association.

Batch "C" was made by the same recipe as "A" and "B" except that the sorbitol solids were replaced by corn sirup solids.

Batch "D" was made by an Exchange Confectioner's Handbook Recipe on the basis of equal parts by weight of sucrose and corn sirup, proportions indicated by experience to be the most satisfactory for the technic recommended.

Table No. 1

Showing Pertinent Data on Citrus Pectin Candy Batches With and Without Sorbitol

BATCH IDENTIFICATION DESCRIPTION	A 15% Sorbitol	B 15% Sorbitol	C Control No Sorbitol	D Regular 50:50 sucrose: corn sirup
Flavor	Wild Cherry	Wild Cherry	Spearmint	Apple
Color	Red	Red	Green	Yellow
Time of Cook	26.5 Min.	26 Min.	26.5 Min.	26 Min.
Final Temperature	227°F	227°F	227°F	227°F
% Soluble Solids (Zeiss) on finished Candy	78.0	78.0	82.0	81.6
pH of 50/50 candy solution	3.51	3.50	3.52	3.51
% Reducing Sugars (Blish Method)				
Determined Before Cook (By calculation	15.6	15.6	24.2	25.2
Determined After 5 min. Boil	18.2	18.4	27.2	28.1
Determined " 10 " "	19.6	19.8	28.9	29.2
Determined " 15 " "	21.0	21.1	30.6	30.7
Determined " 20 " "	22.6	22.5	31.7	31.7
Determined " 25 " "	23.9	23.8	—	—
Determined Finished Candy	25.7	25.3	35.9	35.1

The water quantities of the different batches were adjusted to give similar times of boil for each batch.

The pertinent analytical data and storage test results on the above candies are shown in Tables 1 and 2.

Interpretation of Results

Admittedly, the judgment of storage test results gives relative values. However, relative values are the primary interest in these tests.

Observations made during storage tests indicated that sorbitol accelerates sweating and apparently is not appreciably effective in reducing surface hardening or crystallization of these pectin candies.

Table No. 2
Showing the Results of Storage Tests Made On the Candy Batches of Table No. 1

STORAGE CONDITIONS After 40 days	*OPEN CONTAINERS*	*CLOSED CONTAINERS*
ROOM TEMPERATURE* AND ROOM HUMIDITY	Slight surface hardening on all batches. Only the Sorbo batches showed a sweat. Sorbo batches weak and short textured.	Slight sweating on Sorbo batches. No surface hardening on any. Sorbo batches weak and short textured.
40°C OVEN STORAGE (104° Fahrenheit)	Slight surface hardening on all batches. Sorbo batches weak and short textured.	Sorbo batches sweated first and most. Other batches showed slight sweating. Sorbo batches weak and short textured.
4°C (39°F.) REFRIGERATOR STORAGE Adjusted to room temperature before examination.	Same results as at room temperature and room humidity.	
ALTERNATING STORAGE 40°C to 4°C (104°F–39°F) Every 3 days.	Slight sweating of Sorbo batches only. Slight surface hardening equal on all. Sorbo batches weak and short textured.	Sweating appreciably worse on Sorbo batches. Sorbo batches weak and short textured.
ROOM TEMPERATURE AND 66% Relative Humidity	Sweating more pronounced on Sorbo batches.	Sweating greatest on Sorbo batches. Surface hardening about equal on all.

*Approximate range of temperature was 52°F to 86°F
" " " " Humidity was 39% to 100%

It will be noted that the indicated per cent refractometric solids are lower for the batches containing sorbitol than for the batches without sorbitol. This is believed due to refractometer errors introduced by the presence of sorbitol. For instance, the refractive index of an 80% sucrose solution is 1.49, and a sorbitol solution with a refractive index of 1.49 must contain approximately 86.3% of sorbitol. All batches were cooked with the same thermometer and required approximately the same cooking time, so the *actual* soluble solids content must be quite similar (Boiling points of sorbitol solutions are very close to the boiling points of sucrose solutions, for the same concentrations).

In any event, another sorbitol batch was made and cooked to give an *indicated* refractometric soluble solids content (finished candy) of 81.5%. The *actual* solids must have been higher than that, yet this candy also showed sweating.

Reproducibility of the candy process is seen by comparing batches A and B in Table No. 1.

Examination and Analyses of Pectin Candies Containing Sorbitol

Samples of such candies, reportedly made by the published S.R.R.L. formula and technic previously mentioned, were received by this laboratory. The samples showed definite surface hardening. Repeated analyses disclosed the following:

Average % soluble solids (Zeiss)	84.8
Average % reducing sugars	23.2
Candy solution pH (diluted 50/50 with water)	3.31

Candies made in Exchange Research Laboratories with a 27 minute boil (by the same reported recipe) showed 33.2% reducing sugars and a pH of 3.51. These figures would indicate that the S.R.R.L. samples had a substantially shorter cooking time. The reason for the unusually low pH (3.31) is not known. The buffer system indicated by the recipe is very stable and should not suffer change unless substantial increases are made in the acid levels.

Uses of Citrus Low Methoxyl Pectin in the Confectionery Field

Low Methoxyl Pectin (Pectin, L. M.) was designed to perform most efficiently in low sugar preparations. Consequently, even though pectin candies can be made with this material, they produce weak and unsatisfactory pectin pieces. No particular advantages are attributable to use of Pectin L. M. in the confectionery field and it is felt that Exchange Confectioners Pectin #451 is more suited to such a use, will perform more dependable, give more uniform results, and, in the long run, probably be more economical.

There are other products in the field which are pectic in character and are sometimes referred to as low methoxyl pectin or modified low methoxyl pectin, but actually they are pectates rather than pectinates (low methoxyl type). To the best of our knowledge, such materials offer no technical adavantage over the use of regular confectionery pectin.

For complete information in regard to pectin candy making recipes and technics, the reader is referred to an article in the June, 1951 issue of THE MANUFACTURING CONFECTIONER, "Pectin Confectioner's Jellies", by L. Cletus Gallagher. Reprints are available upon request.

News of Associations

National Confectioners' Association has just released a booklet, "The Sale of Candy in Schools. Copies of this can be obtained from the Association. In releasing the booklet Mr. Philip P. Gott said in part "This can be a powerful weapon, working in your behalf. Only by acquainting the public with the facts can we hope to combat anti-candy sentiment".

American Cocoa Research Institute elected the following officers for the coming year: Howard O. Frye, General Manager of the Walter Baker Chocolate and Cocoa Division of the General Foods Corporation, was elected President of the Association. Mr. Clive C. Day, Vice Chairman of the Board of the Nestle Company, Inc., was elected Vice President. The Executive Committee, which directs the policy of the Association, will be made up of the following, in addition to Messrs. Frye and Day: H. Russell Burbank, President of Rockwood & Co.; L. W. Majer, Secretary and Assistant to the President, Hershey Chocolate Corporation; J. M. Barber, President, Klein Chocolate Company; B. G. Forrest, Vice President and Treasurer, Wilbur-Suchard Chocolate Company, Inc.; and George B. Dodd, President and Treasurer, Hooton Chocolate Company. Mr. Dodd replaces Miss Gretchen B. Schoenleber, President, Ambrosia Chocolate Company, as a member of the Committee. Miss Schoenleber received the commendation of the membership for her outstanding service as a member of the Executive Committee. Mr. Gordon P. Peyton, of Washington, D. C., was reelected as Secretary-Treasurer and again named General Counsel. Mr. L. Paul Oechsli, of Turrialba, Costa Rica, was again designated Director of Research of the Institute, and Mr. Leonard J. Schwarz, of Chilton, Wisconsin, remains as Consultant on cacao to the Board.

One of the major topics of discussion at the meeting was the activity of the American Cocoa Research Institute and its contributions in practical research in cacao in the Western Hemisphere. The forward outlook is favorable toward increased cacao supplies. It was the consensus of the meeting that the recent removal of price controls from cocoa beans and products derived therefrom would not result in nearby price increases.

The Dallas Candy Club has elected the following new officers: L. O. Peterson, President; Olan Green, Vice President; and S. B. Farrar, Secretary & Treasurer. During the Texas Assn. of Tobacco Dealers Convention held here in Dallas in September each year, the club has a lounge booth for tired

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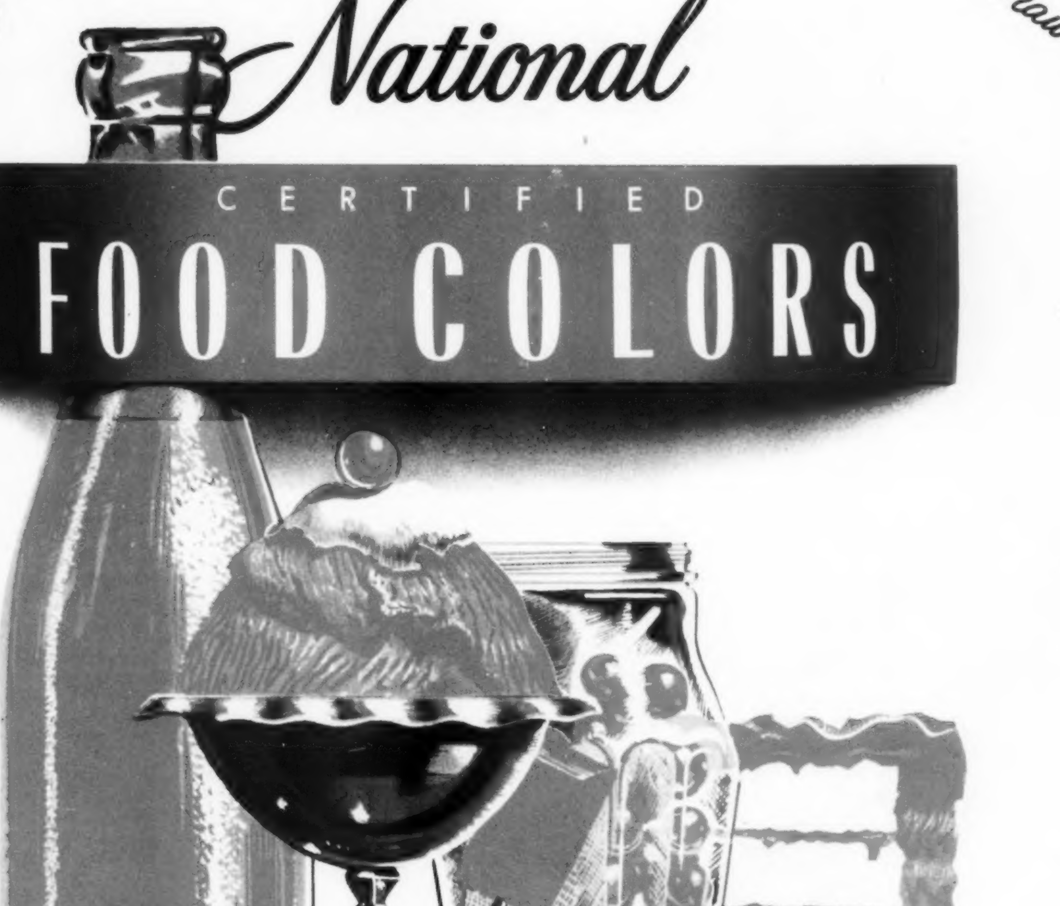

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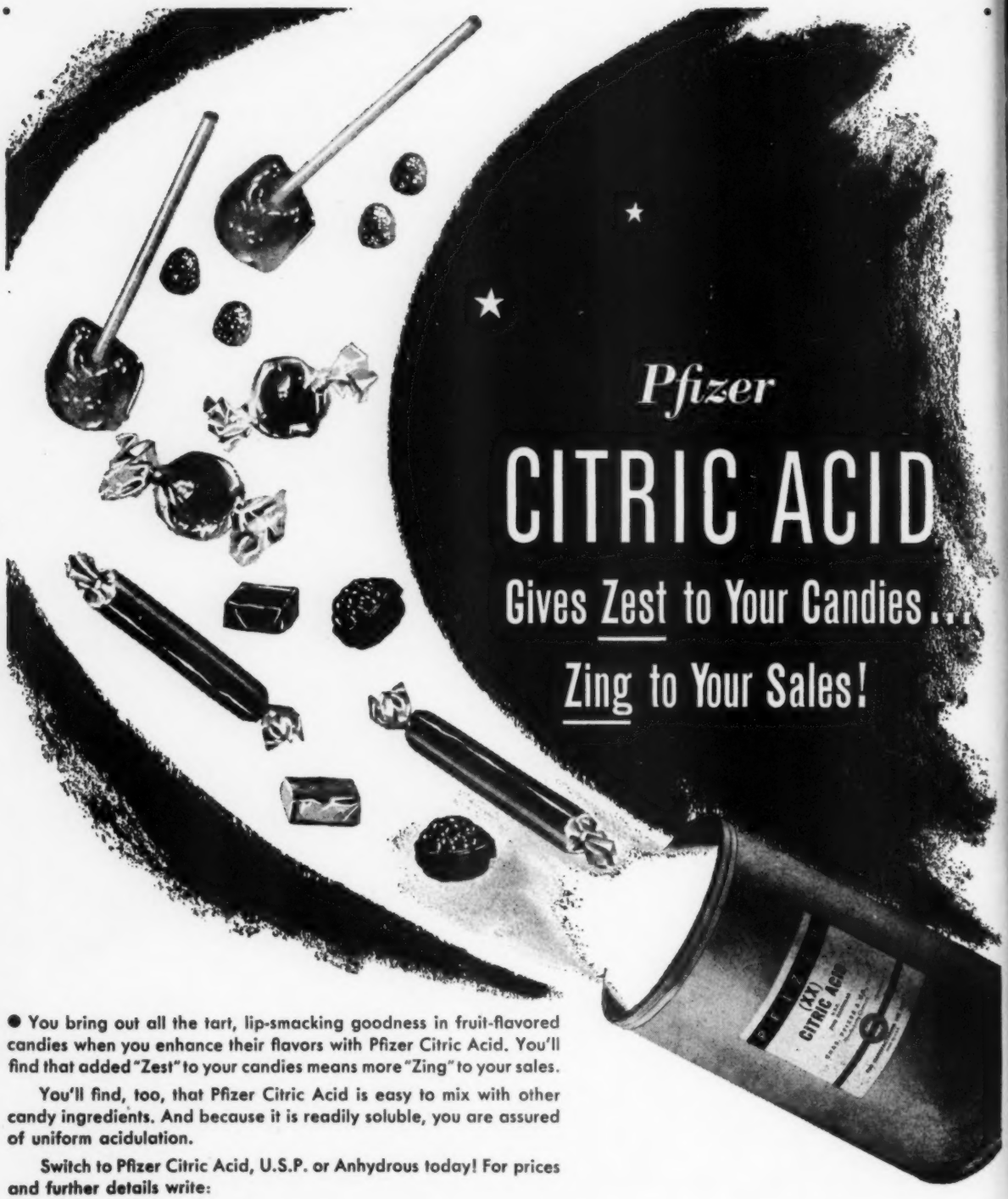

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Jobbers and friends. At present the Club is doing all it can in the way of wires and letters to Representatives in the Legislature, protesting the bill now under consideration in the House, which would ban the manufacture and sale of Candy Cigarettes.

The Boston Section of the A.A.C.T. had as the subject of its April meeting, the "Growth of Vanilla Beans and their Processing to Vanilla Extract." The speaker was Mr. Louis V. Towt of McCormick & Company of Baltimore, Maryland who has had considerable experience in the handling of vanilla in the growing areas. In addition to the talk there was a twenty-five minute motion picture illustrating the subject.

The New York Chapter of the A.A.C.T. elected the following new officers: George L. Richardson, of Quaker Maid Co., Inc., Brooklyn, N. Y., chairman; Earl K. Manhold, Jr., of H. K. Hart Confections, Union City, N. J., vice chairman; John B. Adams, Jr., of National Sugar Refining Co., New York, secretary; and John Calder, of The Nulomoline Division of the American Molasses Co., New York, N. Y., treasurer. The new executive committee will consist of W. Tresper Clarke, of Rockwood & Co., Brooklyn, N. Y., and Frank M. McIntire, of T. H. Angermeirer & Co., New York. Avery A. Dunn, sales manager of Atlantic Gelatin Division of General Foods Corp., Woburn, Mass., spoke on "The Manufacture and Use of Gelatin in Gelatin in Candy Products."

Southern Wholesale Confectioners Assn. are rapidly completing plans for their convention and candy show being held at the Jung Hotel, New Orleans, La., June 10th to 12th.

NCA Sanitation meeting was held in Chicago in April with a program for manufacturers on improving methods of plant cleaning. Otto H. Windt of E. J. Brach & Sons, was chairman. The assistant chief of the Chicago office of the U. S. Food & Drug Administration spoke on recent legislation affecting the food industry. Subjects discussed were: Recent Legislation affecting the food industry, What does sanitation cost, Setting up your plant sanitation program and "Cleaning Aids", uses and abuses.

Candy Executives' and Associated Industries' Club, Inc. of New York discussed at their April meeting "Raw Materials and Packing Materials for the Candy Industry." This was a panel discussion with James A. King acting as moderator.

Mr. Walter A. Deacon, Manager of purchases of the Raw Materials and Equipment Division, National Biscuit Company, gave a very good description of the operations of the purchasing department of Nabisco. Mr. Allan C. Kane, Jr., Purchasing Agent, Frank H. Fleer Corp., then described the workings of his department, and what he expected of salesmen calling on him. Mr. Sam Goldstein, chief chemist, Loft Candy Corporation, explained how cooperation between the purchasing department, and the laboratory, assures a manufacturer of getting the type and quality of supplies that he wants.

The Western Candy Conference held one of their most successful conferences ever held in Los Angeles. C. O. Matheis, Bishop & Company, was general chairman of the conference with Warren Watkins of Warren Watkins Industries, Ben Myerson of Ben Myerson Candy Co., Edward Pearson of Pearson Candy Co., and Sol Gendel of L. A. Nut Co. as members of the committee, Alfred Beaudry of Beaudry Bros. acted as Treasurer. The two day sessions were highlighted by a talk by Mr. Arthur Lutz, chairman of Smart & Final Iris Co., one of the largest grocery houses on the west coast, on candy merchandising. Mr. Lutz spoke of the necessity of having packages designed to give them the best display value. He spoke of the value of dated merchandise to enable the retailer to keep merchandise fresh. His company sells over 4 million dollars of candy and gum a year. Kenneth L. White of Sierra Candy Company is chairman of the Food Tax Equality Committee. Mr. White introduced Arthur Connolly, who discussed matters pertaining to removal of discriminatory sales tax on candy. "Food products" are exempt from the California sales tax, except candy and confectionery products. Efforts are being made to eliminate the discrimination against "candy and confectionery," as now included in the Revenue and Taxation Code.

The 1954 conference will be held in San Francisco and Jack Phelan, vice president of Euclid Candy Company, will be the Chairman. It was indicated that next year's conference would be held earlier in the year.

Be sure to attend
the
NCA Convention
June 14-18

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and the
Confectionery Industries
Exposition
June 16-18

Waldorf Astoria Hotel
New York City

Getting Optimum Performance from Filling Equipment

Testing Consumer Acceptance for a New Label Design

Packaging Considerations in Converting to Self-Service

Notes from the Packaging Conference, Chicago, April, 1953

Getting Optimum Performance From Filling Equipment

A Panel Discussion by Edward Lee, General Foods Corp.; Ernest J. Moyat, Curtiss Candy Company; Wilbur R. Gouveia, The Fleishmann Distilling Corp.; William G. Wiley, The Stevens-Wiley Manufacturing Co.; William P. Schommer, General Mills, Inc.; Carr H. Parsons, Lederle Laboratories.

Small losses make the difference between average and optimum performance on the packing line. The filling machine—the machine that measures out the product for the consumer and frequently sets the pace for the line—is an ideal place to begin to stop these losses and plug the profit leaks. To operate equipment at the maximum accuracy and capacity consistent with maintenance cost, container damage, and changeover time, Mr. Lee suggested the following:

1. Select the equipment best suited to your need. Compare the various types of equipment available. Examine them in the field; "Ask the man who operates one." Test your product at the manufacturer's shop or in your plant. Selection of equipment on this basis will avoid the impulse buying that your merchandise manager is trying to promote at the retail level.

2. Establish indexes for performance in terms of accuracy and capacity. Accuracy of filling in the past has been considered secondary to capacity, but "I believe this is unfortunate and wrong. I believe the spotlight being turned on this phase of filler operation by higher costs and shrinking profit margins confirms this belief."

Manufacturers' statements of machine accuracy can be used as a guide, but manufacturers are often limited in their facilities for testing and must use approximations. In submitting samples of your products, send several, representative of the range of physical variation, and in requesting weight accuracy statements, ask for the limits that will include two thirds of the individual weights.

Close and accurate supervision of filler operation and of product characteristics are the key to accuracy. Control methods do not in themselves adjust the filler or indicate the reason for an out-of-control condition. The well trained operator well supervised is our only recourse today.

The value of improved accuracy can be determined from the cost of the product. A conflict between speed and accuracy often can be reconciled by equating the possible losses due to overweight with the possible gain in accuracy.

To judge the capacity performance of a filler, use the calculated efficiency of the machine before attempting to judge the performance of the filler itself. Calculate an efficiency for the entire line by dividing the actual production by speed per minute multiplied by 480 minutes per eight-hour shift. If normal output is not 90 per cent of theoretical, *you have a job on your hands.* If it is not 95 per cent you have no reason to be complacent. The best way to find out where capacity is being lost, is to use a high stool and a stop watch.

Control your product and exert every effort to eliminate unscheduled maintenance. Establish and properly

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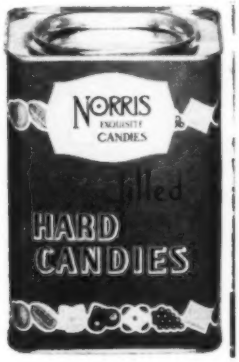
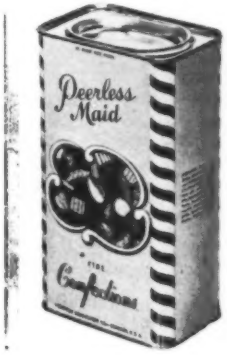
TALL *Containers!*

QUALITY AND SERVICE ARE STRESSED FACTORS

. . . IN THE PRODUCTION OF THESE CONTAINERS WE USE THE UTMOST CARE THROUGH THE ENTIRE PROCESS, WHETHER THE NUMBER BE GREAT OR SMALL.

TALL CONTAINERS MAY BE ADAPTED TO NUMEROUS TYPES OF PRODUCTS, FACILITATING PACKING AND SHIPPING AS WELL AS CONTRIBUTING TO SHELF EYE-APPEAL WHEN AN ATTRACTIVE DESIGN IS USED.





Quality **OLIVE CAN COMPANY** *Service*
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administer standards for timing and wear of parts to reduce unscheduled maintenance. When breakdowns do occur, *there is no substitute for competent maintenance personnel.* Control changeovers so that excessive time is not consumed by the change itself and by final adjustments made after production has supposedly been resumed. Proper storage of change parts is essential, and color coding is frequently advantageous.

Obtaining optimum performance from filling equipment is an operating problem that requires the cooperation of management, engineering, and purchasing. There are no short cuts.

Testing Consumer Acceptance Of New Label Design

F. C. Majarack,
H. J. Heinz Company

What specifically releases the trigger in the customer's brain to move the product the last three feet from shelf to buggy? With self service here to stay, the package has a new role in this neutral sales arena. With the sales clerk gone, only the package label can explain the merits of the contents; pick the "X" variety from many varieties of many brands of competing foods, and direct thoughts to weight, ingredients, and suggested uses.

The design of the label is a rather complex task, combining not only the talents of design and color but—more importantly—expressing the character of the product and reputation of its maker. To express adequately, therefore, all the features necessary in a good label, it requires the coordinated effort of virtually all phases of the company's business. We at our company worked along the following lines:

1. We met as a committee or Management team to establish design policies to be followed in the new program.

2. We worked on designs of specific product lines which complied with basic policy decisions and still satisfied artistic design requirements.

3. We sounded out consumer opinion on questions of which there were unresolved conflicting opinions on about which we had no basis for forming an opinion.

4. We determined market reaction through store tests and limited area market tests.

The committee that met originally was composed of our president, the general sales manager, marketing manager, advertising manager, head of our advertising agency, label designer, label consultant, and product development manager who coordinated the program. You will notice that we used the very top echelon of our Executive personnel to lay the framework for the design program.

In the H. J. Heinz label we had to consider the following established associations to our name:

Established 1869
Heinz
Pickle trademark
"57"

With very careful study, "Established 1869" and the Pickle trademark was taken off of our label. The next problem was to determine which of the remaining two marks should be the most prominent. Physciologically numbers are retained easier than names, but, with consumer tests it was agreed that the company name should reign over "57".

After the labels have been put into use, Heinz keeps tuned to consumer

opinion through two groups in daily contact with the consumer—the regular sales force and a group of consumer contact personnel who pay special attention to their problems. These sources, plus a close scrutiny of sales records for comparable periods, will help evaluate the success of a new label.

Packaging Considerations In Converting to Self-Service

Datus W. Berlin
Gimbel Brothers

The need for reducing selling and operating costs and simplifying shopping have made self-service selling a necessity for the retailer. It is only a matter of coordinating the requirements and improving the techniques before self service will be generally adopted. The public has been conditioned to self-service in the supermarkets and this education has made the inefficient service in department stores a frustrating experience.

The supermarket techniques of arranging merchandise so the customer can make her own selection are being carried over into other branches of the retail field. This can be done by identifying the products with signs and display arrangements and by improving the packaging of the products themselves.

If an adequate packaging job for self-service is to be done the objectives must be defined in terms of the problems of three main groups: the manufacturer, the retailer, and the ultimate consumer.

The objectives of the package designer should be as follows: 1. to provide for easy and quick indentification of the product; 2. to provide maximum opportunity for inspection of contents; 3. to provide for concise and emphatic explanation of the benefits of the product (a very good idea for candy manufacturers) 4. to allow for maximum efficiency in stacking and conserving space; 5. to produce a durable package which will protect the product and contain it for carrying by the customer or for riding a belt or delivery truck; 6. to provide for every possible extra service such as identification of sizes, increasing unit sale, etc. These factors can be developed, to meet the requirements for self-service even if the product is not now sold in that way because *any factors which will facilitate self-service will be equally effective for other kinds of selling.*

Federal Incident

A MAN had an apple stand on the border line between Maryland and Virginia; and, by the rules, he was engaging in interstate commerce. He had a big sign that read, "An Apple A Day Keeps the Doctor Away".

Somehow, because word got around that in this neighborhood not enough people were taken sick, a complaint was lodged.

In due course an expedition of inspectors from one Government regulatory agency made their way to the border; and these inspectors were followed in due course by inspectors from another government regulatory agency. The fine and thorough details of inspector training had singled out the apple man. He gave the inspectors a list of his customers, his earnings, and the source of his raw materials. Nothing was said to him of his sign.

Back in Washington the inspectors had themselves a ball. That sign—it was dynamite. There was the insinuation that apples can make people well and keep them well.

"What about cancer? Why, a person was in grave danger! He could eat apples rather than see his doctor, and thereby he could be fooled into being the instrument of his own death".

Affidavits were obtained from four eminent physicians stating that apples were positively not a recognized cure for cancer.

A group of eminent psychologists were gathered from their chairs at the universities, and they planned and carried out a very scientific test. In their opinion, which was formally attested to, "an apple keeps the doctor away" means "the doctor is kept away by apples", and everyone knows that the public is harmed when the doctor is kept away. Also, a public survey by these psychologists revealed much the same opinion: 47% to 19%, 32% being non-committal and 2% for apples.

It was established among physicists, and attested to, that there was no physical (magnetic or electrical) field generated by an apple that was active against doctors. Two doctors laid down their lives in this endeavor because something effective against doctors had to be established as a control. What that something is remains a zealously guarded secret.

The result. The apple man was using false advertising. An injunction was sought in the public interest.

Back at the border line, the apple man, being confronted by 40 pages of legal documents, thought it was wise to get a lawyer—if only to read the documents.

Now this lawyer was smart. The sign was changed to read "An Apple A Day Aids and Abets in Keeping the Doctor Away".

"Still false", said the regulatory agency. "We seek relief. We spent two years preparing these charges. You will have your day in court next week to answer".

"Dang nab it! I'll give the apples away and go out of business," cried the apple man.

He was again informed that the sign was false advertising, whether give away or sell.

The next step was up to the beleaguered entepreneur of apples and his lawyer. They could get witnesses. Old Mr. Jackson, bless his fragile bones, was often seen sitting on his front porch, wearing his Civil War hat, and munching apples between his mail order teeth. And Dr. Jones never bought apples; that must mean something.

The injunction suit was not answered, and so the Federal Court ordered the sign down by a certain date, pending a formal hearing on the false advertising charge.

About that time a merciful, taxpayers' wind blew out of the Shenandoah Valley and destroyed the sign, and that was the end of it.

—H. Levin

The MANUFACTURING CONFECTIONER'S

Candy Clinic

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of The MANUFACTURING CONFECTIONER.

Filbert Paste Bar
2¼ ozs. for 25c
Code 5B53

(Purchased in a department store, San Francisco, Calif.)

Appearance of Bar: Good.
Appearance of Package: Gold Foil Wrapper. Gold foil seal in center printed in Brown. Bar is a light chocolate, Filbert Paste, a thin layer of dark chocolate on the bottom.
Bar:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: A very fine eating Chocolate Filbert Paste Bar.

Easter Novelty
4 ozs. for 49c
Code 5C53

(Purchased in a department store, San Francisco, Calif.)

Appearance of Novelty: Good.
Appearance of Package: Cardboard Container. Rabbit's face cut out in colors, Pink, Buff and Black.
Novelty Contained: One-half Easter Egg, foil wrapper, and Toffee in assorted colored foil wrappers. Pink grass, ribbon around neck of bunny.
Egg:
Coating dark: Good.
Center: Chocolate Cream: Good.
Toffee:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: Very attractive Easter Novelty.

Milk Chocolate Bunny
4 ozs. for 69c
Code 5D53

(Purchased in a department store, San Francisco, Calif.)

Appearance of Bunny. Good.
Size: Good.
Appearance of Package: Foil wrapper printed in red.
Chocolate:
Color: Good.
Texture: Good.
Taste: Good.
Molding: Good.
Remarks: The best chocolate we have examined this year in molded pieces. A very good eating milk chocolate.

Butter Sugar Mints
7 ozs. for 49c
Code 5E53

(Purchased in a department store, San Francisco, Calif.)

Appearance of Package: Good.
Container: Paper backed foil bag, printed in green, pink and white.
Mints:
Color: Good.
Texture: Good.
Flavor Wintergreen: Good.
Remarks: The best Wintergreen sugar mints we have examined this year. Very good flavor.

Burnt Almond Chocolate Caramels
8 ozs. for $1.10
Code 5F53

(Purchased in a department store, San Francisco, Calif.)

Appearance of Package: Good.
Container: About the size of a 2# can. Key opener. Printed paper band in yellow and maroon.
Number of pieces: 14.
Piece is cut in large squares dipped in light coating on sides and bottom, top is open.
Caramel chocolate:
Color: Good.
Texture: Good.
Taste: Good.
Coating: Light.
Color: Good.
Gloss: Good.
Taste: Good.
Remarks: A very different confection and very fine eating. Quality is very good.

Assorted Home Made Candies
2 lbs. for $2.35
Code 5A53

(Sent in for Analysis.)

Appearance of package: Good.
Box: Two layer type full telescope. White glazed paper top, printed in gold and brown. Name embossed in brown. White paper wrapper, overall printing of name in gold.
Appearance of box on opening: Poor.
Number of pieces:
Light coated pieces: 27.
Dark coated pieces: 30.
Pecan Nougat slices: 2.
Chocolate Walnut Fudge Slices: 2.
Coatings: Dark and Light.
Colors: Dark, good.
Light, poor.
Gloss: Poor.
Strings: Bad.
Taste: Fair.

Candy Clinic Schedule For The Year

The monthly schedule of the CANDY CLINIC is listed below. When submitting items, send duplicate samples six weeks previous to the month scheduled.

JANUARY—Holiday Packages; Hard Candies
FEBRUARY—Chewy Candies; Caramels; Brittles
MARCH—One-Pound Boxes Assorted Chocolates up to $1.00
APRIL—$1.00 and up Chocolates; Solid Chocolate Bars
MAY—Easter Candies and Packages; Moulded Goods
JUNE—Marshmallows; Fudge
JULY—Gums; Jellies; Undipped Bars
AUGUST—Summer Candies and Packages
SEPTEMBER—Bar Goods; 5c Numbers
OCTOBER—Salted Nuts; 10c-15c-25c Packages
NOVEMBER—Cordial Cherries; Panned Goods; 1c Pieces
DECEMBER—Best Packages and Items of Each Type Considered During Year; Special Packages, New Packages

Light Coated Centers:
Ice Cream Drop: Good.
Nut Taffy: Good.
Chocolate Pecan Coated Vanilla Cream: Good.
Peanut Cluster:
Nut Crunch: Good.
Light Chocolate Paste: Good.
Filbert Cluster: Good.
Pecan Chew: Good.
Chocolate Nut Cream: Good.
Chocolate Nut Caramel: Good.
Vanilla Nut: Good.
Dark Coated Centers:
Coconut Cream: Good.
Orange Colored Cream: Lacked flavor.
Butterscotch: Good.
Chocolate Coconut Cream: Good.
Caramallow: Good.
Dark Cream: Could not identify flavor.
Vanilla Butter cream: Good.
Vanilla Cream: Good.
Jelly & M. M. Good.
Chocolate Cream: Good.
Cream Brazil: Good.
Date: Good.
Maple Nut Cream: Poor Flavor.
Pineapple Cream: Fair.
Dark Cream & Nuts: Could not identify flavor.
Pecan Nougat Slices: Good.
Walnut Chocolate Fudge Slices: Good.
Assortment: Good.
Remarks: Box is too large for two pounds of this size chocolates. The Light Chocolate was very soft and greasy. Quality of centers is very good.

Chocolate Paste Nougat
1 lb. for $1.25
Code 5G53

(Purchased in a department store, San Francisco, Calif.)
Appearance of Package: Good.
Box: One layer type. Silver and buff, foil paper top. Name embossed in blue. Cellulose wrapper.
Appearance of Box on opening: Good.
Number of pieces: Forty. Two foiled. Piece is cut in squares.
Filbert Paste: dark and light chocolates in layers.
Colors of paste: Good.
Texture: Good.
Taste: Good.
Remarks: A different confection, very good eating and well made.

Hand Dipped Milk and Dark Chocolates
1 lb. for $1.29
Code 5H53

(Purchased in a department store, San Francisco, Calif.)
Appearance of Package: Good.
Box: One layer type. Buff paper top printed blue and brown. Imprint of girl in blue and dark brown. Cellulose wrapper.
Appearance of box on opening: Good.
Number of pieces:
Milk Chocolate: 12.
Dark Chocolate: 20. One foiled.
Coatings:
Colors: Good.
Gloss: Good.
Strings: Good.
Taste: Good.
Milk coated centers:
Chocolate caramel: Good.
Orange Cream: Lacked flavor.
Chocolate Cream: Good.
Pink: Could not identify flavor.
Vanilla Nut Caramel: Good.
Molasses Cocoanut Paste: Good.
Dark Cream: Could not identify flavor.
Vanilla Cream: Good.
Buttercream: Good.
Dark coated centers:
Orange Cream: Good.
Nut Brittle: Good.
Maple Cream: Fair.
Pink Cream: Could not identify flavor.
Cream: Could not identify flavor.
Dark Cream: Could not identify flavor.
Cashew Cluster: Good.
Vanilla Cream: Good.
Chocolate Cream: Not a good flavor.
Chocolate Fundge: Fair.
Lemon Cream: Fair.
Nougat: Poor.
Raisin Cluster: Good.
Nut Cream: Good.
Mint Cream: Good.
Assortment: Fair.
Remarks: Suggest less creams be used. Add a few hard candy pieces to improve assortment. Suggest a better grade of flavors be used.

Salt Water Kisses
12 ozs. for 69c
Code 5I53

(Purchased in a department store, San Francisco, Calif.)

Appearance of Package: Good.
Cellulose Bag: Printed in pink, white and black. Imprint of boy and girl in colors. Paper clip on top of bag.
Kisses:
Colors: Good.
Stripes: Good.
Texture: Good.
Flavors: Good.
Remarks: A good kiss but highly priced at 69c for 12 ozs.

Chocolate Coated Cordial Cherries
4½ ozs. 39c
Code 5J53

(Purchased in a department store, San Francisco, Calif.)

Appearance of Package: Oblong box, white glazed paper top, printed red and blue, imprint of cherries in colors. Cellulose wrapper.
Appearance of box on opening. Bad. See remarks.
Cherries:
Coating: Dark.
Color: Good.
Gloss: None.
Strings: None, rough top.
Taste: Good.
Number of pieces: 8.
Center:
Cordial: Good.
Cherries: Good.
Taste: Fair.
Remarks: Out of eight pieces, six were broken. Coating is entirely too thin for a cordial cherry. Cordial lacked flavor. Suggest a good cherry flavor be used in the center. Very poor packaging. Suggest a divider be used to prevent cherries from breaking.

Butter Sugar Mints
7 ozs. for 44c
Code 5K53

(Purchased in a department store, San Francisco, Calif.)

Appearance of Package: Fair.
Box: Folding printed, green and white. Mints are in a cellulose bag.
Color: Good.
Texture: Good.
Flavor: Good.
Remarks: The best sugar mint of this kind we have examined this year.

Nut Chocolate Coated Marshmallows
5 ozs. for 29c
Code 5L53

(Purchased in a department store, San Francisco, Calif.)

Appearance of Package: Good.
Marshmallows are in one layer, coating on top and bottom, on a cardboard layer; gold paper printed slip inside. Cellulose wrapper.
Coating: Fair.
Nuts: Good.
Marshmallows:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: Very cheap coating but at this price we cannot expect too much in the way of quality.

Chocolate Coated Honeycomb Chips
8 ozs. for 60c
Code 5O53

(Purchased in a department store, San Francisco, Calif.)

Appearance of Package: Fair.
Box: Oblong shaped. Buff paper top printed in dark brown. Imprint of chips, top and sides.
Appearance of package on opening: Poor.
Number of pieces: 41.
Coating: Light.
Color: Good.
Gloss: Poor.
Strings: Wave.
Taste: Fair.
Chips: Center.
Color: Good.
Honeycomb: Good.
Texture: Good.
Taste: Good.
Remarks: About 25% of chips were broken and center was soft and chewy. Suggest manufacturing of centers be checked, also cooking degree.

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JESSE C. LESSE CO.
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Office and Sales Room
161 Massachusetts Ave.
BOSTON 15, MASS.
Territory: New England

Middle Atlantic States

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318 Palmer Drive
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Terr: New York State

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PHILADELPHIA 39, PENN.
Specialist with the Super Market & Wholesale Grocery Trade for Nineteen years, in this Concentrated Area.

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Candy—Novelties—Package Foods
Territory: Ga., Fla., Ala. & Tenn.

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Candy and Specialty Items
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Terr: Ga. & Fla.
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SAMUEL SMITH
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Terr: No. & So. Carolina
Over 25 years in area

BUSKELL BROKERAGE CO.
1135 East Front Street
RICHLANDS, VA.
Contact Wholesale Groceries, Candy Jobbers and National Chains
Terr: Va., W. Va., Eastern Tenn., and Eastern Kentucky

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Candy & Allied Lines
5308 Tuckahoe Ave.—Phone 44280
RICHMOND 21, VIRGINIA
Terr: W. Va., Va., N. & S. Car.

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H. K. BEALL & CO.
308 W. Washington St.
CHICAGO 6, ILLINOIS
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Territory: Illinois, Indiana, Wisconsin
25 years in the Candy Business

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FRANKLIN, TENNESSEE
Established 1924
Territory: Tenn., Ky., and W. Va.
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Confectionery Brokers

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P. O. Box 177—Phone 8-4097
NASHVILLE 2, TENNESSEE
Terr: Kentucky, Tennessee, Alabama, Mississippi, Louisiana

AUBREY O. MAXWELL CO.
91 Franklin St.
NASHVILLE 3, TENN.
Manufacturers Sales Agent
Territory: Middle Tennessee

West No. Central States

ELMER J. EDWARDS CANDY BROKERAGE
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MINNEAPOLIS 17, MINN.
Phone: Pa. 7659
Terr: Minn., N. & S. Dak.—Special attention given to Twin City trade

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We specialize in candy and novelties.
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Territory: Texas

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JERRY HIRSCH
Manufacturers' Representative
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Territory: Arizona, New Mexico & El Paso, Texas

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Terr: New Mexico, Arizona & El Paso, Texas area

Pacific States

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1487½ Valencia St.
No. Cal., Nev., & Hawaii
SAN FRANCISCO 10, CALIF.
923 E. Third St.—Southern California
LOS ANGELES 13, CALIF.
Terminal Sales Bldg.
Wash., N. Idaho
SEATTLE 1, WASH.
903 Park Road
Ariz., New Mex., W. Texas
EL PASO, TEXAS

RALPH W. UNGER
923 East 3rd St.
Phone: Trinity 8282
LOS ANGELES, CALIFORNIA
Terr.: Calif., Ariz., N. Mex., Hawaiian Islands

GENE ALCORN & CO.
1340 E. 6th Street
LOS ANGELES 21, CALIFORNIA
383 Brannan Street
SAN FRANCISCO 7, CALIFORNIA
Territory: State of California

HARRY N. NELSON CO.
112 Market St.
SAN FRANCISCO 11, CALIF.
Established 1906
Sell Wholesale Trade Only
Terr: Eleven Western States

I. LIBERMAN
SEATTLE 22, WASHINGTON
Manufacturers' Representative
1705 Belmont Avenue
Terr: Wash., Ore., Mont., Ida., Utah, Wyo.

GEORGE R. STEVENSON CO.
Terminal Sales Building
SEATTLE, WASHINGTON
Territory: Wash., Ore., Ida., Mont
Over 20 years in this area.

NILES F. WICKER
Confectionery Manufacturers' Representative
811 Boren Avenue
SEATTLE, WASHINGTON
Territory: Washington and Oregon
15 years' experience in selling candy to all wholesale grocery, tobacco, confectionery jobbers, besides making a full coverage on all grocery chains, drug chains, super markets and pre-packers.

The MANUFACTURING CONFECTIONER'S Clearing House

MACHINERY FOR SALE

FOR SALE: 4 ft. motor driven F. & B. Cream Beater with 3 HP motor, also 9 ft. motor driven revolving cooling drum for pops. Make us an offer. Sharp & Shearer, Inc., Reading, Pennsylvania.

SIMPLEX GAS FIRE COOKER with extra kettles, U. S. Automatic Cartoning Machines; Wrap-Ade pop wrappers, Lynch Wrap-O-Matics, 350-gallon Gum Kettle, 32" Enrober, Friend "Dreadnaught" with 5 dies. Box 534, **The MANUFACTURING CONFECTIONER.**

HILDRETH TWIN PULLER, 3-HP motor, practically new; Charms Straight Sugar Cooker; 32" N. E. Coater; Huhn Dryer and Cooler; National 1000-lb. Syrup Cooler; FA-3 with 4 changes. Box 535, **The MANUFACTURING CONFECTIONER.**

HANSELLA AUTOMATIC BATCH ROLLER, Instant Fondant Machine, Simplex Steam Vacuum Cooker, D. F. Bar Wrapper, Werner Ball Machine, Forgrove wrapper for pops and hard candy, Steel Mogul. Box 536, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Lynch Wrap-O-Matic Bar Wrapper with Electric Eye. In excellent condition. Box 537, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Huhn Starch Dryer and Cooler. Complete with full equipment. Installed to operate with Mogul. Box 538, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Package Machinery Co. DF Bar Wrapper, with electric eye. In excellent condition. Box 539, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Package Machinery Co. Model K Kiss Wrapper, with fan-tail twist ends. Box 5310, **The MANUFACTURING CONFECTIONER.**

FOR SALE: 1 Lehmann late style 9 compartment, largest production Type 88 DSL Cracker and Fanning Machine. 3 Lehmann and National 36" Triple Stone Mills. Must be sold immediately. Box 5311, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Chocolate Holding Tanks. 60" x 72", Jacketed, with Agitator Each Tank holds 8000 lbs. of liquor or cocoa butter. No reasonable offer refused. Box 5312. **The MANUFACTURING CONFECTIONER.**

POSITION WANTED

Chocolate and enrober foreman seeking job with reliable firm. Best references. Box 306, **The MANUFACTURING CONFECTIONER.**

Pan Man with 35 years experience, would like out of town work. Also some experience in other Candy lines. J. T. Nascone, 326 42nd St., Pittsburgh 1, Pa.

HELP WANTED

WANTED:

PACKAGING FOREMAN

CANDY PRODUCTION

Have opening for qualified man to supervise all packaging operations in large, modern candy plant located in San Francisco Bay area. Responsible for supervising and training large number of employees engaged in packaging chocolate, marshmallow and hard candies; controlling labor costs; recommending cost-saving methods; and controlling over-all operations of packaging machinery and equipment. Prefer man under 45 with experience in packaging operation using cellophane, plastic bags, window boxes, and other types of boxes used in candy and bakery trade. Must have supervisory experience in high-volume packaging operation and be able to study operating methods, cost figures, make use of technical data, and maintain efficient operations. Permanent job, appropriate salary, liberal employee benefits, and good advancement opportunities. All replies held in full confidence. Send complete details on: education, employment record, personal history, and salary expected.

Write to THE MANUFACTURING CONFECTIONER, Box 5313

WANTED:

PRODUCTION CONTROL MGR.

CANDY PLANT

NATIONAL food concern with modern high-volume candy plant located in California has opening for qualified man. Responsibilities include: planning and setting up master production schedules; coordinating plant-wide manpower and production requirements; supervising preparation of daily work assignments and production reports; and making time and motion studies and recommendations on equipment layout changes to achieve efficient production.

BACKGROUND must include technical education and at least five years' experience in either a supervisory or a staff job in candy production.

GOOD salary and program for advancement. Permanent position with liberal benefits. Reply in complete confidence, sending details on: education, personal background, full employment record including earnings, and salary requirement.

Reply to The MANUFACTURING CONFECTIONER, Box 5314

PAN MAN AVAILABLE: 35 years experience in general pan line. Hot and cold grossing finish and polish, including chocolate pan work. 15 years in charge pan department as foreman. Best of references. Desires a change. Box 438, **The MANUFACTURING CONFECTIONER.**

CLASSIFIED ADVERTISING
For the Convenience of Our Readers

The Manufacturing Confectioner's classified section is designed to aid candy men in obtaining or disposing of used equipment, services and miscellaneous items. You will find that it pays to read and use the classified section.

In replying to classified ads with box numbers, please address letters to: Box Number, **The MANUFACTURING CONFECTIONER,** 418 North Austin Blvd., Oak Park, Illinois.

Minimum insertion is 3 lines at 35c per line. 70c for bold face; not subject to agency discounts.

THE MANUFACTURING CONFECTIONER
418 No. Austin Blvd. Oak Park, Illinois

HELP WANTED

Manufacturer's Rep. Agent of Broker who knows the "ins and outs" of The Packaging Materials Business for the HOTTEST and FASTEST growing Packaging Material in The Industry.

We are manufacturers of TOP QUALITY TUBE STOCK POLYETHELENE BAGS; and produce these bags on our own designed and engineered machines at lower unit cost than the rest of The Field.

Our lower prices assure your getting all the business you go after. Cooperation-leads-direct mail to back you up. Write: **Mr. R. S. Schrader, Sales Mgr., 500 North Dearborn St., Chicago 10, Illinois,** covering territory, allied lines. Strictly Confidential.

Candy Production Man—Must have thorough knowledge and experience in candy manufacturing methods and equipment for all types of candies. This position requires ability to supervise factory workers and maintain production at efficient operating levels. Unlimited opportunity with a well-established growing concern located in Philadelphia. Future prospects are bright for the right person. Send letter describing previous experience, age, and range of salary you would consider. Box 533, **The MANUFACTURING CONFECTIONER.**

All around Candy Maker for whole-sale candy manufacturing, making full line of tropical candies. Must be experienced in chocolates and enrober work. A-1 references required. Located Miami, Fla. Steady employment. Salary open, excellent working conditions. Box 532, **The MANUFACTURING CONFECTIONER.**

Experienced Candymaker to assume head position in up to date high class retail candystore. Must be able to make hand-rolled chocolates, caramels, jellies, etc. Top salary, steady all year around employment. For further information, write or call: The Moderne Confectionery, 110 West Washington Avenue, South Bend, Indiana. Phone 3-0371.

MACHINERY WANTED

WANTED: Chocolate Storage Tanks—10,000 to 20,000 lb. capacity. Must have agitator, jacketed or unjacketed. Box 531, **The MANUFACTURING CONFECTIONER.**

WANTED: Double arm mixer, Day #5 or Read Type P. Must be in good condition. Send photo, full description and best cash price to Safelite Corp., P.O. Box 636, Easton, Pennsylvania.

WANTED: Friend Bostonian Model Hand Roll machine in good condition with 240 new wooden trays. Norris Candy Co., P.O. Box 2208, Atlanta, Ga.

WANTED: #4½ Champion Continuous Feed Cookie Machine to take a 19 inch plaque with ¾ H.P. 110 Volt 60 Cycle motor and five standard dies ½", ⅝", ¾", ⅞", and 1". Norris Candy Co., P.O. Box 2208, Atlanta, Ga.

MISCELLANEOUS

CLOSEOUTS OF CANDY, GUM & ALLIED LINES FOR GRAB BAGS, GIVE AWAYS, FARMER AUCTION MARKETS, PHILA. SALES CO., 1023 Spring Garden St., Philadelphia.

INDEX TO ADVERTISERS

In The MANUFACTURING CONFECTIONER

Advertisements of suppliers are a vital part of the industrial publications's service to its readers. The following firms are serving the readers of The MANUFACTURING CONFECTIONER by placing their advertisements on its pages. The messages of these suppliers are certainly a part of the literature of the industry.

Advertising space in The MANUFACTURING CONFECTIONER is available only to firms supplying equipment, materials, and services for the use of confectionery manufacturers. Advertising of finished confectionery products is not accepted.

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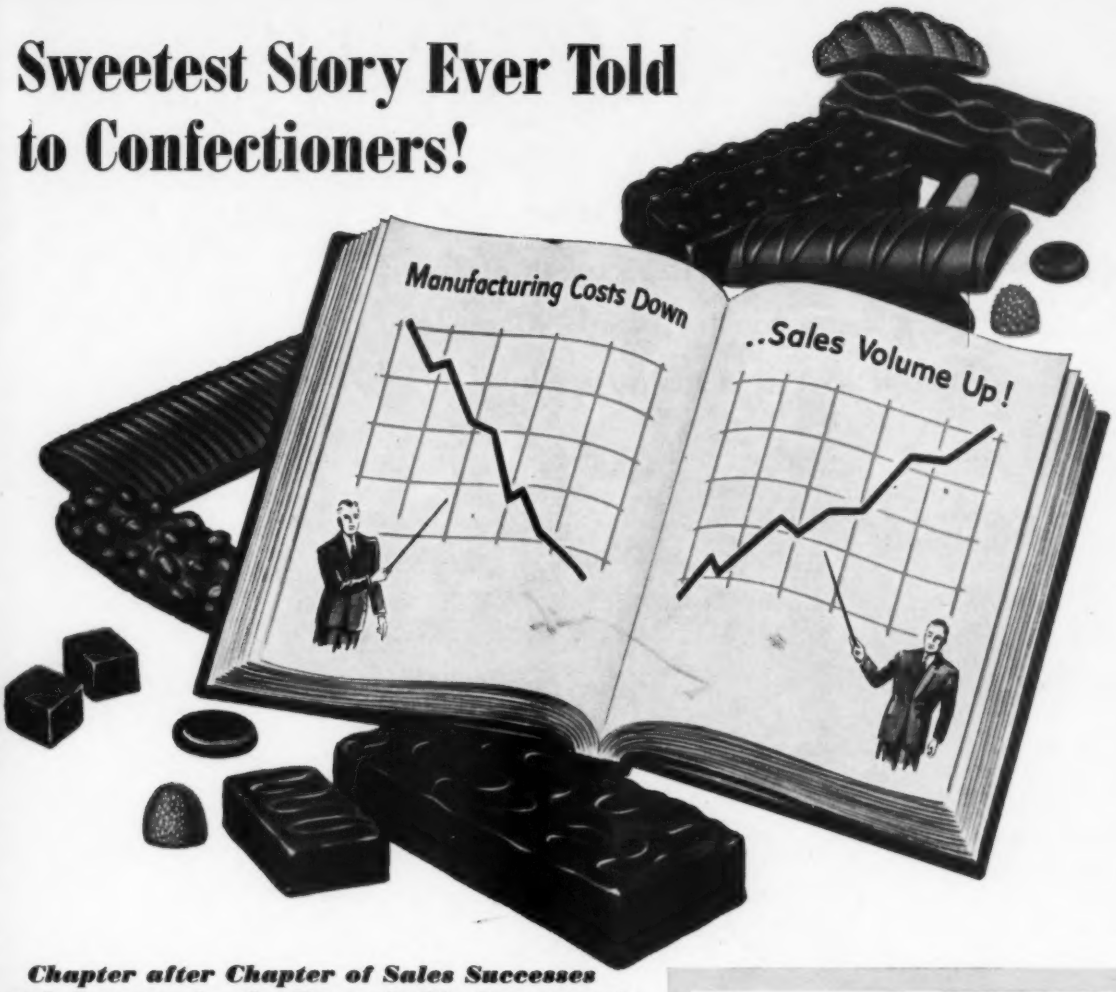
RAW MATERIALS

PRODUCTION MACHINERY AND EQUIPMENT

PACKAGING SUPPLIES AND EQUIPMENT

Sweetest Story Ever Told to Confectioners!



Chapter after Chapter of Sales Successes with Sweetose®— the Remarkable Sweetener!

Growing candy sales and profits call for delicious "just-made-freshness" in all your confectionery products. *Sweetose*, the enzyme-converted corn syrup, *actually retains moisture to prolong freshness*. This modern, improved sweetener keeps your candies delicious and appealing far longer. Staley's exclusive conversion process makes *Sweetose* water-white, odorless and flavorless . . . twice as sweet, more than twice as fluid as ordinary corn syrup. It adds new flavor richness, new texture, new eye appeal! Dependable delivery, reliable service and fair prices make Staley your *best* source of raw materials. Get full details about *Sweetose* today!

Sweetose®

STALEY'S ENZYME-CONVERTED CORN SYRUP

PRODUCTS FROM CORN
Staley's

A. E. Staley Mfg. Company, Decatur, Illinois

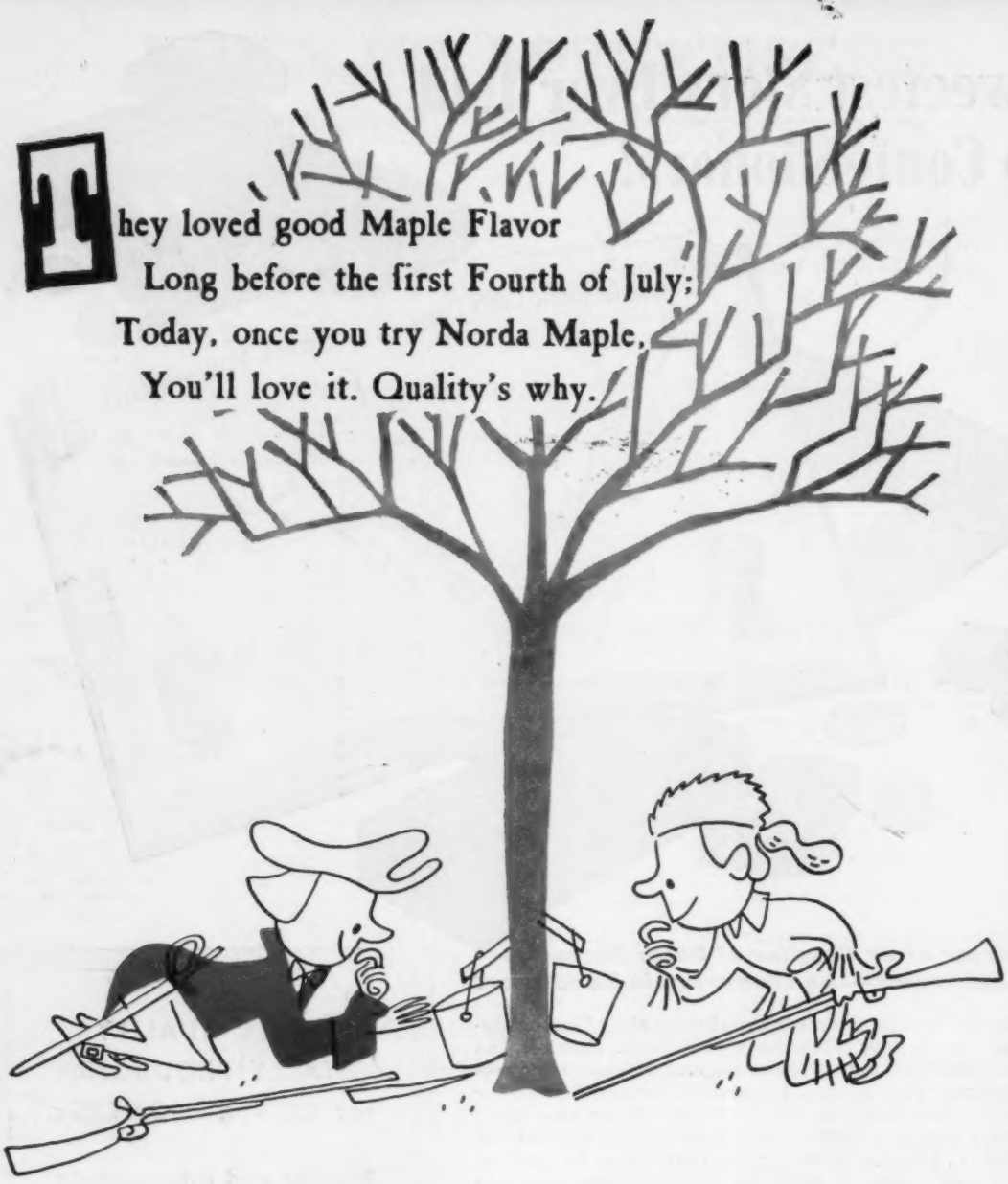
OTHER QUALITY STALEY PRODUCTS for CONFECTIONERS:

Regular and Intermediate Corn Syrup— High quality Confectioners' Corn Syrup adaptable to standard candy formulas.

Sta-Sol®—Lecithin Concentrate gives better mixing, imparts better eating and keeping qualities.

Staley's Starches—Include a full line of improved confectioners' starches for cooking and moulding.

They loved good Maple Flavor
Long before the first Fourth of July;
Today, once you try Norda Maple,
You'll love it. Quality's why.



Did you get a chance to go to a sugar bush this Spring and taste fresh Maple Syrup, from trees tapped a few hours before?

If you did, or if you didn't, here's a test we wish you'd make. Try some Norda Maple Flavor, either genuine or concentrated imitation.

How do you like it? Isn't it good? Doesn't it taste as fresh and rich as *any* maple you ever enjoyed? Notice its color, its aroma, its true maple-sweetness, in all characteristics.

Use Norda Maple Flavor wherever quality counts and economy matters. Its full-bodied strength insures the *right* maple taste without waste. You will find it most profitable.

You are the best judge of your own needs. Send for generous free samples.

Use "A Favorite to Flavor It"
. . . . A Norda Flavor

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601 West 26th Street, New York 1, N. Y.

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